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Higher Education

New Approaches to Accreditation,
Digitalization, and Globalization
in the Age of Covid

Edited by Lee Waller and Sharon Waller



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Preface

The world of education is experiencing a time of unprecedented change. In our modern, Covid-racked world, educational institutions and their respective delivery methodologies have been forcibly and forever transformed. Most educators realize that these transformations are likely permanent and that procedures and systems of the past will no longer be relevant for the emerging post-Covid educational environment. The future provides countless challenges and great opportunities. Those embracing the transformation will be poised to usher in a new age of educational achievement. They will certainly unleash new educational methodologies, techniques, and strategies. These institutions and educators will chart tomorrow's pathway.

Today's countless challenges require in-depth strategic visioning that incorporates historical analysis blended with a clear understanding of the present situation and the needs of the emerging world of workplace readiness. While many visualize historical analysis founded only upon their respective culture, they must be much broader. The historical analysis must include comprehension of the accomplishments and trials of many cultures and societies. In our global world, an egocentric historical analysis is no longer viable. The historical analysis must consider the broader global world as what occurred in one culture has very likely affected that which impacted another. Forward visioning without a broad historical context is only partially prepared to embrace the future.

The present situation is ever-changing as governmental regulations, delivery methodologies, and societal expectations rise and fall with each new wave of the Covid pandemic. All of these issues are further impacted by the associated international travel limitations and differences across international travel regulations. Institutions with numbers of international students often find these students unable to return to their studies. The financial situations of most students have suffered as families struggle to deal with economic shortfalls due to the Covid pandemic. These issues change from region to region. Yet, a holistic understanding is needed to guide future visioning efforts.

No one has a crystal ball capable of foretelling the future; however, the world has changed and will never return as it once was. Education has changed. Education of the future will not be as it was in the past. For example, faculty and students have entered the world of distance education with all its strengths and weaknesses. In this environment, some have excelled while others have struggled. Those who have excelled are now actively seeking to expand their distance education opportunities. Faculty have been forced to develop new skillsets that will certainly be utilized in the future to meet student expectations. Again, education has changed. While we do not know what the future will be, we do know that it will not be like the past and the present. Changes have come, some of which will remain even when Covid restrictions are lifted.

Accreditation and governmental regulation have always been employed as a means of assuring educational quality. In fact, accreditation and governmental regulation

are widely viewed as the primary entities charged with protecting educational consumers. The foundations of today's accreditation and governmental regulation were established pre-Covid. As such, these entities have struggled to adjust to the ravages of the pandemic. Many nations have been forced to adjust to distance delivery to protect the educational community from exposure to the deadly pandemic. Just as educational delivery has changed, accreditation and governmental regulation have changed with increased accountability with some expectations and heightened flexibility with others. If anything in the future is certain, accreditation and governmental regulation will most certainly expand expectations in the days ahead in order to guide the emerging educational environment.

Digital resources have also undergone a significant transition in the age of Covid. With the expanded implementation of distance learning, demand has driven innovation. Innovation has redesigned instructional delivery and provided new opportunities and markets. Faculty and students have developed new skillsets. These new skillsets further empower workplace success. The expansion of digital delivery continues to empower globalization. Distance education and globalization are strongly related. International students have often been provided access to distance education when unable to return to the institution due to Covid restrictions. Many institutions have implemented dual delivery models in which some students are physically present while others join remotely.

The global educational environment has proven to be widely interconnected. No nation can any longer operate in a vacuum. If the Covid pandemic has done anything, it has put everyone in the same situation. Across continents and across nations, controlling the spread of Covid has become the primary concern. As a result, every educational system has been forced to adjust. Accordingly, new approaches and new methodologies have emerged. These advances have occurred in diverse environments and cultures. The challenge has been the sharing of these practices across a myriad of educational entities. Hence, there is a growing need for persons on one continent to know what is occurring on another. Collaboration builds strength, and collaboration requires a forum for sharing. In short, the innovative changes associated with digital delivery should be utilized to empower the exchange of ideas and successes.

The Covid pandemic has forever changed the educational model on all fronts. It is the hope of the editorial staff that this text aids the reader in the quest to embrace the future. The editors also wish to thank the many contributors to this work.

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Section 1

Strategic Visioning

Crossroads of Higher Education in Troubled Times Facing the Future of Work and the Subjective Well-Being of Professionals in Latin America

Sandra Iturrieta Olivares

Abstract

The effects of massification, fragmentation and segmentation in higher education have been exacerbated by the state of current affairs. Latin America has been especially shaken, due to e.g., political changes resulting from massive expressions of social discontent following 2019; or the arrival of COVID-19, its interruption of the quotidian, and its impetus for technology to burst into professional work. In this context, three major crossroads for higher education – resulting from bibliographical and document analysis and integration – are presented in the paper, “Rethinking undergraduate training in social sciences from the imaginaries of the future about professional work”. The paper discusses development in the current context, the future of professional work, and subjective well-being in professionals. To face these challenges, the conclusions propose the exercise of prognostic intelligence as an alternative. Prognostic intelligence is a professional skill that can be developed during higher education. Its practice would eschew the presentism characteristic of our turbulent times in favor of expanding the possibilities of outlining the future of higher education on the basis of relevance, quality, and stability.

Keywords: higher education in complex times, future of work professional, subjective professional well-being, Latin America

1. Introduction

The effects of massification, fragmentation, and segmentation of higher education have been exacerbated by convulsions, be these from COVID-19, social uprisings and political transformations in some Latin American countries, forcible technological disruptions in professional work, or any of the many looming changes in the future of professional work. A sense of existential insecurity, a fear of the future, has come to light for professionals and represents a crossroads in higher education that must be addressed in order to maintain its relevance, quality and stability.

First, higher education is going through massification processes, evidenced by increased gross enrollment rate – worldwide, from 19% in 2000, to 38% in 2018 [1].

In Latin America, this phenomenon began in the 1990s with the liberalization of the supply of professional training and the novel coexistence of public and private higher education regulated by the market and competition. This resulted in increased coverage in Latin America and the Caribbean by 29 percentage points between 2000 and 2018, compared to the 22 points in Europe and North America and 30 in East and Sub-East Asia during the same period [1]. The Chilean case has become a paradigm in the liberalization of higher education, leading fragmentation in many professions, reserving university status only for some and relegating still others to professional institutes (IP) – the latter of which grant professional degrees, but not bachelor's. Furthermore, specialized training offered at technical training centers (*centros de formación técnica*, CFT) around operational professions has also increased. As a result, the expansion of higher education in Latin America has developed in a segmented manner. In other words, people from certain socioeconomic strata have priority access to certain types of institutions, and, therefore, occupy work positions that are also differentiated with respect to the material and symbolic valuations of work tasks in the national socio-professional pyramid [2, 3]. Thus, the social inequalities that characterize the continent are also reproduced in this sense, calling into question the impact of “universal access to higher education” ([1]: 8) on development in these countries.

In various Latin American territories, higher education is aspirational to the middle socioeconomic strata; its contributions, however, to the personal and social development and progress is subject of sustained public debates regarding its definition as a universal human right or, on the contrary, as a consumer good. This is further occurring in the midst of the “structural de-qualification of qualifications” ([4]: 40), in which professionals are “destined to obtain from their qualifications less than what the preceding generation would have obtained from them”. I have previously argued this causes a kind of collective disillusionment [2, 3], which “results from the structural mismatch between aspirations and opportunities” ([4]: 137). That is to say, that there is a mismatch between the social identity that higher education seems to promise – the one it proposes on a provisional basis – and the social identity it actually offers as part of the labor market [4].

Thus the crossroads – as above, from the massification, fragmentation, and segmentation of higher education, the future of professional work, and the structural de-qualification of degrees – are further exacerbated by the presence of COVID-19 and the convulsions of our times. We discuss some of these in this text, and conclude with a proposal to face them and outline the future of higher education.

2. First crossroads: higher education in turbulent times

Recent years have witnessed increased demonstrations of social discontent in different countries around the world. Even though it maintains the highest Human Development Index in Latin America and the Caribbean – and even though its development model has been praised for the success of its macroeconomic figures – Chile was no exception. In 2019, days of massive social protest were unleashed here and subsequently in Colombia, Peru and Argentina. These social movements were united by discontent among broad sectors of the population against the prevailing development model. Macroeconomic success was not seen in the microeconomy, nor in the subjective wellbeing of the population – which, even when not resulting in social revolts elsewhere, still exists throughout the continent.

The universalization of quality higher education as a human right became a vanguard banner in such self-convened social movements. In the case of Chile, a plebiscite approved the drafting a new constitution to govern the destinies of

the Republic after 2022. Here, higher education and its public-private character, its social or market grounding, and its financing are central issues of the current debate. However, the long days of social protest were abruptly silenced by the irruption of the SARS-CoV-2 coronavirus, which altered routines toward the troublesome.

COVID-19 tested the massification of higher education in Latin America generally. During these times, the sector enjoyed greater access – even compared to other, most economically disadvantaged sectors – with the technological advantages from previous online professional training. However, fully implemented as an emergency measure, the structural gaps in poverty levels, geographical dispersion, and access to the Internet were exposed. Likewise (and affecting the self, and therefore, expectations, decisions, and understandings of professional training): social capital, or the added value that someone obtains from mutually recognized relationships and connections [4]; cultural capital, the power that each person has in the form of a set of intellectual qualifications produced through the family and the school system [4]; and symbolic capital, the characteristics of a person, which are perceived by other social agents, that allow them to know him/her, recognize him/her and grant him/her a certain value [4]. Differentiated cultural, social, and symbolic capitals are reflected in the segmentation of higher education: students from lower socioeconomic strata attend universities with limited economic resources – or, by borrowing, attend those characterized by their massiveness – while those from middle and high strata attend universities with greater resources and selectivity. This segmentation is closely linked to the fragmentation of higher education, confluences of social, cultural, symbolic capitals, as well as horizons of possibilities for choice of universities, professional institutes or technical training centers. Manifest moreover with online education during COVID-19, structural gaps continue to affect access to and effectiveness of higher education [5] – even if some parts of Latin America have made progress toward free access for the most economically disadvantaged.

During this time, there has been discussion regarding teaching and its challenges in the pandemic [1, 6]. However, little has been said about how the pandemic has put tension on the autonomous learning of professionals in training. This ability, which is mediated by their cultural, social and symbolic capitals, is directly related to the arguments developed by students to sustain a conceptualization of higher education as either consumer good or human right, and therefore also affects their processes of self-learning. Under a premise of market education, where students are customers who consume a service toward the ultimate goal of obtaining a professional degree as soon as possible, any tendency toward autonomous learning would be lower. Here, and so as not to delay the training process, demands for greater tutelage – to overcome anxieties and insecurities derived from the need to successfully overcome the challenges offered by professional training – would be greater. Meanwhile, a conception of education as a human right – underpinned by personal development in accordance with humanistic, social thinking, and central to the advancement of nations and their citizens – would therefore ideally be more inclined to self-learning, a “learning to learn”, where error would be part of learning, of a process of rest and decanting, which in no case would mean extending the deadlines for timely graduation.

The development of self-learning skills is acquired throughout all educational levels until becoming a professional. However, in Latin America in general, these educational levels are also fragmented, passing on to the next level the responsibility of correcting the gaps that remain throughout the educational trajectories. Thus, upon arrival at higher education, students usually present difficulties in reading and writing; comprehension and interpretation of texts; logical reasoning; and oral and written expression [7, 8], which is directly related to their social, cultural and

symbolic capitals. This hinders self-learning, and therefore has hindered the progress of online education in times of pandemic, tensioning the opportunities offered by the various technologies to expand knowledge with the actual use of these possibilities by the student body. Thus, the development of skills for autonomous learning is a prerequisite to speak of online higher education, in any of its modalities, if what we want is the achievement of learning for life and not only obtaining a professional degree that favors competition in the socio-professional market.

The irruption of the SARS-CoV-2 coronavirus has made it clear that autonomous learning “represents the navigation chart that students will have in the coming years to achieve their educational objectives” ([6]: 67). The development of this skill is central, if we consider that the ability to achieve ubiquitous learning is an essential tool for future professional work. Ubiquitous learning is that which occurs anywhere and at any time, e.g., via a cell phone or other devices close to people [9, 10] that takes advantage of the universality of the internet as an additional media dimension through which we can perceive the world and provide opportunities for new learning [11]. Hence the relevance of self-learning: universities will have to discuss whether they “increasingly transfer e-learning solutions or prolong face-to-face learning scenarios to mobile devices” ([12]: 9). This is in line with the changes that universities will have to face in the future [6], where, after the return of face-to-face teaching, it will be necessary to calibrate mistakes and successes of online academic work in times of COVID-19 [6, 13, 14] and to discuss the implications of scaling digitization, hybridization and ubiquitous learning. To achieve this, practical and specific digital competencies are increasingly required, in addition to those of abstraction, reasoning, synthesis and critical thinking [10, 15]. This supports the need to expand the social, cultural and symbolic capitals of higher education students, where the use of technologies represents an effective means for the opening of cultural and social worlds and imaginaries, thus enhancing the development of such skills. In this sense, the obligatory nature of online education, as a result of the pandemic, has opened a possibility of experimentation and innovation in opening everyday worlds and expanding the cultural, social and symbolic capitals of students, which, while desirable as early as possible, should at least be present in higher education.

The return to face-to-face professional training after the pandemic is a necessity for the achievement of quality higher education, which integrates the dimension of “learning by doing”, one of the greatest human learning capacities. However, the development of online classes in times of COVID-19 has shown that the use of communication and information technologies of various kinds allow students to learn and discuss different economic, social, cultural and political realities; increases their abstraction, reasoning, synthesis and critical thinking skills; and expands cultural, social, and symbolic capitals. In this sense, the permanent incorporation of various online platforms into work – which has allowed instant connectivity with other people from different parts of the world, as well as to know, reflect and discuss different realities, subjectivities, cultures and conditions – is a need that has been evidenced during the period of teaching in pandemic.

Thus, the crossroads between the technological requirements derived from the development of online higher education, its massification, fragmentation and segmentation, and its more clear manifestation during the pandemic calls for the promotion of educational policies that consider the living conditions of the less favored segments [6]; that promote ubiquitous self-learning; that take into account the experiences lived in times of COVID-19, in which collaborative work networks have been strengthened and expanded by the use of various electronic platforms; and the narrowed geographical horizons of professional work. The development of such policies requires visionary strategies to face the coming changes in education

and the future of professional work, reconceptualizing the university in its educational models, and in the ways of dealing with research, dissemination of knowledge and linkage with their environments, which are also expanding.

3. Second crossroads: future of professional work

Although the future of humanity has been analyzed on the basis of various areas and concerns, its themes tend to be related to the economic basis of societies and their modes of political organization. The intersections between these two dimensions originate different ideas about how future societies will be, imagining them as an egalitarian world with abundance; one with abundance, but with a hierarchical order; on the contrary, as an egalitarian world, but with scarcity; or as a hierarchical one, also with scarcity [16]. Evidently, all these possibilities harbor ideological nuances and different possibilities, with some scenarios more favorable than others. In all these analyses, paid work continues to be a permanent element and articulator of everyday life, even when there is consensus regarding the present and future transformations of the world of work.

So far, analyses on the future of paid work have focused mainly on two perspectives. One that predicts the gradual obsolescence of humanity in the world of work, and the other that suggests the complementarity between human labor and that of artificial intelligence. Those who predict obsolescence of humanity in the world of work assume that rapid technological evolution will gradually replace people, even in those tasks currently perceived as exclusively human because they involve abstract thinking and relational skills. According to such approaches, these capabilities could be developed by technological devices in which the thinking mechanisms of an average human being have been developed [17]. Therefore, higher education should be focused on preparing professionals to provide such devices with these capabilities. According to this view, in the future some professions will be more relevant than others, reordering the socio-professional pyramid with which different countries value them. On the other hand, those who propose that technological progress will substitute only some labor functions argue that human skills related to originality, fluency of ideas, deductive reasoning, sensitivity to problems, or critical mentality are not replaceable by artificial intelligence and will be complemented by the capabilities that have been transferred to it, increasing labor productivity [18]. There will be, therefore, no human obsolescence in the world of work, but rather complementarity between human and artificial intelligence. Both positions recognize that the automation of some labor functions will require the development of new human skills at work.

Transformations in the world of work will also be reflected in professional work, and there are three different positions. One of them corresponds to the “continuity thesis” [19, 20], which argues that professionals have social, cultural and symbolic capitals that will allow them to adapt to the changing world of work and preserve their expert status using multidisciplinary perspectives to contribute knowledge to a highly complex and rapidly changing environment. In contrast to this, the advent of a post-professional society [21–24] in an internet-based digital society would cause profound changes in the distribution of knowledge in the population, which would increasingly rely on practical knowledge, available online, to solve everyday situations. Thus, increasingly informed people would require less and less professional services, since the development of technological devices capable of self-operation – or that do not require specialists – would be on the rise. A third perspective suggests that there is not sufficient background to argue that professional work will be negatively affected in the future by the inclusion of technologies in the world of

work, and so the theses of continuity and the post-professional society are merely dystopian or retrotopian lucubrations. That is, in the sense proposed by Bauman [25], retrotopias consist of the yearning to improve the current human situation, transferring past potentialities to the present, in a nostalgic vision for a past valued for its presumed stability and also for its supposed reliability [25]. However, even if there are not enough arguments to support one or the other position, certain current trends in professional work may continue or be exacerbated in the future. Such propensities correspond to the fact that: 1) labor sources may demand that professionals provide more services, with fewer resources at their disposal; 2) demand for new competencies beyond the traditional boundaries of the professions, therefore, may expand their professional jurisdictions; 3) the standardization of possible ways of performing certain tasks may not necessarily consider contextual redesigns; 4) the decomposition of professional work into different parts may be handled by different types of professionals, by non-professionals, or become automated; and 5) the routinization of professional labors, which until now had been particularly complex, may become commonplace [26, 27].

So, in any case, there is consensus that professional work will undergo changes in the future; therefore, higher education should focus on creating professional profiles capable of adapting to the new times. Whether we nominate them as symbolic analysts [28], self-programmable professionals [29], knowledge workers [30], or “knowmads” [31] education should prepare professionals that are mobile; that, more than people with disciplinary ascriptions or institutions, are nodes of a network, and thus add value to their jobs; and that are able to innovate, to handle sophisticated information, and to transfer knowledge [32].

Given the advance of technologies in professional tasks, all the changes in the future of professional work are at a crossroads with the implications that the massification, fragmentation and segmentation of higher education in Latin America have had on choices and the type of education received.

On the one hand, the massification of higher education represents an opportunity to raise the levels of knowledge available to citizens in general, broadening possibilities for social influence and opening perspectives for making conscious and informed choices. The fact that many more people have access to higher education should mean greater opportunities for personal development as well as for the environments in which they live. However, such massification in Latin America is associated with the fragmentation and segmentation of higher education.

The fragmentation of higher education entails a relevant tension for professional training – the most operative dimensions of the fragmented professions have been transferred to the education offered in professional institutes; and, at the same time, particularities of this latter type of training are transferred to the education offered in technical training centers. Although not in all cases, the same business consortia own both universities and professional institutes and technical training centers; thus, students follow a long ascending path from obtaining a technical degree, through a professional degree, to a bachelor’s degree in a university, culminating an education that in total has been equivalent in time, and more costly in economic resources, than what is involved in the study of a university profession that includes a professional degree and the corresponding bachelor’s degree. This type of educational path is usually followed by people from the most disadvantaged socioeconomic strata, who have seen higher education as a possibility of social mobility, and who have had access through debt, or by studying in evening classes after their working days, as a way of paying for their studies. However, the segmentation of higher education in Latin America operates at all educational levels, so there is no certainty as to the returns that such educational trajectories can bring to

those who have followed them. Hence, the transfer of the most operational tasks to artificial intelligence devices represents a crossroads for higher education.

The advance of artificial intelligence in the development of the most operative professional tasks raises questions regarding the future of those who opt for higher education, referring not only to whether artificial intelligence will replace the work of those who have been trained in professional institutes, and whether it will also replace that of those who have studied in technical training centers. It also raises the question of whether this would mean the end of the fragmentation of higher education, and thus exacerbate competition for jobs by increasing “credentialism”, understood as the availability in the labor market of an increasing number of applicants with higher and higher certifications, which causes a “sort of pyramid of credentials” ([33]: 232). In other words, as artificial intelligence replaces the most operative professional tasks, in order to be more competitive in the labor market, professionals would have to climb to higher and higher degrees, leaving professional degrees at the bottom of the pyramid and doctorates at the top.

Whatever the perspective with which the future of professional work is approached, the massification, fragmentation and segmentation of higher education, and the five current trends of professional work enunciated by Susskind and Susskind [26, 27] pointed out previously, evidence the crossroads of higher education in the face of the future of professional work, and therefore, the need for visionary strategies that allow facing the coming changes in education and in the future of professional work.

4. Third crossroads: subjective well-being of professionals

On the basis that subjectivity is the process through which people “construct an image of themselves, of others and of the world in the context of their social experiences” ([34]: 16), and considering that this sphere is formed by their emotions, images, perceptions, desires, motivations and evaluations among other elements [3], and that each historical moment proposes or prescribes to individuals elements to fix their subjectivity, preserve it or transform it on account of a certain number of purposes, due to the relations of mastery of oneself, over oneself, or of self-knowledge, which produces a type of mentality congruent with the existing cultural conditions [35], it is possible to sustain the existence of a crossroads between the “structural de-qualification of qualifications” ([4]: 40), the subjective well-being of professionals, and the sense of existential insecurity among those who are training as professionals, expressed as fear of the future.

The de-qualification of degrees is considered structural, because it does not depend only on the quality and pertinence of higher education, and on the rigorosity with which professionals develop their work, but is rather fundamentally influenced by the impacts of the massification, fragmentation and segmentation of higher education on the social, cultural and economic “closures” of each profession in the territories in which they are developed. Social closure is “the union of the ‘economic’ closure in a competitive labor market and the ‘cultural’ closure of a group for the appropriation of legitimate knowledge: one and the other are the result of the professional strategy that the same actors use to achieve it” ([36]: 219). Thus, social closure refers to “the degree to which professional collectivities try to regulate, in their favor, market conditions by limiting access to it by a restricted group of potential competitors” ([36]: 53). Likewise, cultural closure corresponds to the “recognition of a legitimate acquired knowledge, without which professional practice would be impossible and which implies, therefore, a cultural closure of

certain professional groups to those who cannot certify the possession of such knowledge” ([36]: 219).

In the scenario in which higher education is currently developing in Latin America, university degrees have undergone processes of structural de-qualification, which, as has been pointed out, refers to the fact that the current cohorts of professionals seem to obtain, from the exercise of their professions, fewer prerogatives than those of the generations that preceded them. Although this phenomenon has multiple dimensions, one of its edges can be observed in the evolution of remuneration obtained by those who practice in Chile. This is especially so among some professions that have been more involved in direct attention to people in the context of COVID-19, such as those linked to direct social intervention, that is, face to face with the people who receive their work; where anthropology, psychology, sociology, social work, and risk prevention engineering; and professions in the field of health, such as nursing, medicine, and medical technology. The following **Figure 1** shows the evolution over the last five years of the average salaries obtained by this type of professionals.

Although Chile had shown economic and social stability until October 2019, when social protests began – and although these measurements were taken before COVID-19 affected employment – all these professions were already experiencing a gradual decline in their economic income, which reflects a dimension of their structural de-qualification. In the social sciences, this downward trend in professional income is compounded by the hybridity of the boundaries in the labor practice, in that, regardless of the type of degree obtained, these professionals share jurisdictions by performing equivalent tasks. Therefore, the cultural boundaries of anthropology, social or community psychology, sociology and social work are becoming increasingly blurred, tending toward interdisciplinarity, which, given the complexity of social issues, may be considered a strength in accordance with current trends in professional knowledge. However, this may also negatively affect the subjective well-being of those students who entered these careers with a different imaginary, closer to the traditional ethos of these professions, which corresponds to what is usually transmitted by the official media through which information

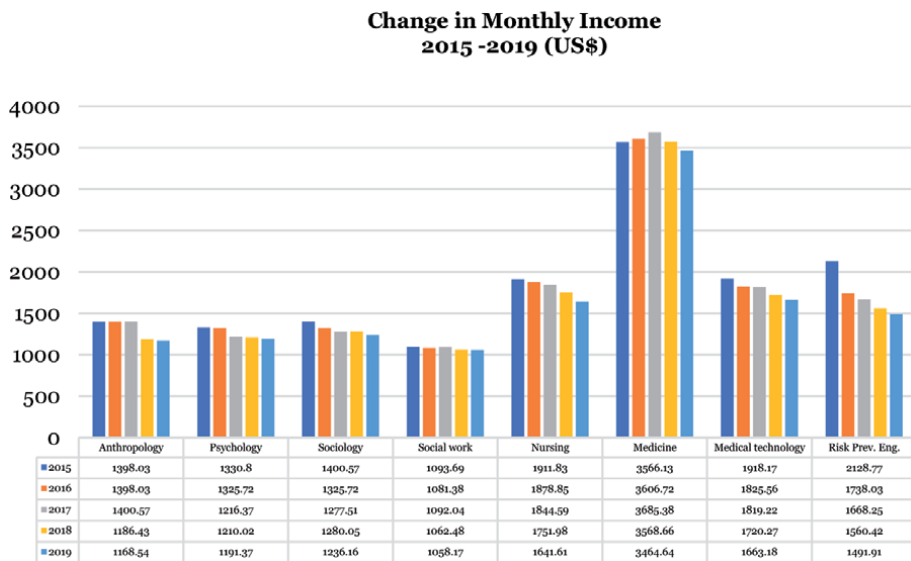


Figure 1.

Source: Prepared by the authors based on data published by the Chilean Ministry of Education, year 2021. En: www.mifuturo.cl.

concerning vocational orientation is disseminated. Furthermore, all these professions experience the processes of massification and fragmentation that characterize higher education in Latin America today. Indeed, segmentation is evidenced by the fact that medicine is the only one of these professions whose students come mostly from private paid secondary education, while the other careers include students coming from state-subsidized and family co-paying establishments. Meanwhile, those who graduate from public secondary schools study these professions in a smaller proportion, tending rather to continue studies in professional institutes or technical training centers.

Considering that, even in Latin America, the idea persists that obtaining a university degree entails a better position and social valuation with respect to non-professionals – and more favorable opportunities for labor insertion and progress, which is reinforced if we consider that, for example in Chile, the minimum monthly legal income for workers between 18 and 65 years of age is US\$ 427.53, which is well below the professional monthly income – then it could be argued that the structural de-qualification of qualifications may consist of a process of rearrangement of the socio-professional pyramid in each country toward social equality in fulfillment of this longing so widely nested in Latin American cultures. It could also mean a process of opening toward the democratization of knowledge, which may be reflected in the expansion of the social, cultural and economic closures of the professions, whose hybrid jurisdictions, and therefore the juxtaposition of professional tasks, has been demonstrated. However, given the transformations in the world of work, increasingly tending toward economic precariousness, and the competition between professionals in the same area, rather than with specific qualifications – which widens the range of applicants with more and more credentials, to the same job position, in addition to having to face the variables of gender and differentiated professional status – the structural disqualification of the professions may put higher education at a crossroads, since those who are being trained as professionals may experience a sense of insecurity, expressed as fear of the future, in the area of their subjective well-being as professionals.

The structural disqualification of the degrees may generate the feeling of an unfulfilled professional promise [37–39], to maintain what Bourdieu stated more than two decades ago in that professionals “deeply doubtful of their social identity, of their own image, by a school system and a social system that have paid them with vain promises, cannot restore their personal and social integrity in any other way, than by opposing to these verdicts a global rejection” ([4]: 7). This has become evident in the manifestations of social discontent that have taken place in different countries of the continent in recent years, in which the students who have opted for higher education, for a particular area, and for a specific profession, are faced with the publicly known idea in Latin America, regarding the structural disqualification of degrees; and therefore, the latent possibility of experiencing an unfulfilled professional promise. This is expressed in everyday life, in colloquial terms, with the label of “educated unemployed” or “cab driver with a university degree”. This situation produces insecurity experienced as fear or anxiety about the future of work, which is assumed to be indefinite and uncontrollable, since the professional future is seen as a multidimensionality that cannot be interpreted through traditional explanatory models, where work is a requisite for social integration, a space for citizen participation, and a driver of material progress.

Subjective well-being consists of the assessment that a person makes regarding his/her own life, in terms of the preponderance of positive feelings, over the negative ones referred to his/her life satisfaction [40, 41], in which are interrelated its hedonic components (constituted by the most frequent feelings, emotions and moods of a person) with its cognitive components (which represent the perceived

discrepancy between aspirations and achievements, whose evaluative range goes from the feeling of personal fulfillment to that of failure or frustration) [42–44].

In the case of professional subjective well-being, this is experienced in a job that oscillates between the disciplinary paradigm and the performance paradigm. In the disciplinary paradigm, work is delimited by a system of rules, including the automatism of customs in a given work space, and contemplates control, rules, prohibitions, and orientations for action [45]. In the performance paradigm, “projects, initiatives and motivation replace prohibition, mandate and law” ([45]: 17) replace the negative idea of prohibition with the affirmative of “being able to do”, being self-motivated and self-optimized with central professional skills. In both scenarios, professional subjective wellbeing is confronted with the structural disqualification of degrees, experienced by students as fear of future employment, becoming a crossroads for higher education, which opens up possibilities to develop new professional skills, or to resituate those that, given the current convulsive times, might have become obsolete.

5. Facing crossroads in charting the future of higher education

Throughout this text, three crossroads that higher education must face have been raised. The first referred to the access of the most disadvantaged economic sectors of the Latin American population to higher education, and the technological requirements derived from online professional training in times of pandemic. After living vast experiences of higher education in convulsive times – characterized by social protests and student strikes in the case of Latin America, and by the presence of the SARS-CoV-2 coronavirus throughout the world, which have prevented the development of face-to-face teaching – information and communication technologies have been given a preponderant place in online professional training. At the time of writing, which is characterized by the partial control of the pandemic and the initial opening of universities, it may be propitious to reevaluate what has been experienced and to define edges that will allow us to outline the future of higher education.

One of the key elements to unravel is the subjective disposition, and diversity [46, 47], of teachers and students to continue in the future with face-to-face, online or hybrid higher education modalities. Considering that, as previously pointed out, then the use of various technological tools in the development of face-to-face professional training is unavoidable, if the aim is to broaden the social, cultural and symbolic capitals of students, in order to develop their self-learning skills.

On the other hand, the current convulsed times are also characterized by dystopian and retrotopian ideas of the future (and in the midst of which there are changes that are coming in the world of work – and in particular, professional work), and so there is consensus that higher education should focus on training professionals capable of facing the current trends of professional work, and in the creation of labor profiles increasingly tending to the knowmad.

Meanwhile, the structural de-qualification of degrees, which is evident in different Latin American countries, confronts the possibilities for professionals to experience their work with subjective wellbeing, and challenges higher education to train them to be able to perform in a working world that oscillates between a disciplinary paradigm, characterized by the application of normative devices, and one of performance, whose central premise is self-regulation.

These and other crossroads that the advances of societies are imposing on higher education require policies based on strategic visions that embrace the changes that are coming in relation to professional training for work, and with respect to the

ways in which higher education will face the multiple dimensions of its tasks. At the same time, such crossroads open up possibilities for the development of new professional skills that will make it possible to successfully navigate the contextual dynamics.

A likely skill to be worked on during professional training, and at the same time possible to be applied by those of us who are part of higher education in our respective countries, corresponds to the exercise of prognostic intelligence, as a rational policy for the future.

Sloterdijk [48], following Jean-Pierre Dupuy, argues that “only experienced apocalypstics can exercise a rational policy of the future, given that they are courageous enough to also consider the worst as a real possibility” (p. 15). This alludes to what Dupuy [49] called enlightened catastrophism, which consists of a new way of managing uncertainties and risks, resulting from assuming a final event as if it had already occurred.

It is then a matter of projecting ourselves through to the moment after the occurrence of an undesired event, looking back in the direction of our present, seeing in such an event a destiny, but a destiny that we may choose to discard while there is still time. In such a context, the ideas of uncertainties, risks, catastrophes and apocalypse change from a negative sense to a positive and socially useful one of predictive rationalism. Therefore, it is possible to argue that the idea of prognostic intelligence encompasses a greater dimension than the one proposed by these authors, since it can also incorporate the dimension of predictive rationalism, which predicts good things and not only apocalyptic events.

Prognostic intelligence corresponds to the exercise of a rational future policy. Therefore, it is different from the analysis through various forms of artificial intelligence, which, based on a set of data that allow the configuration of algorithms, can predict future behaviors or events. It is a skill that can be developed during professional training, to be put into practice in facing the crossroads of higher education; and, in the future, anticipating negative effects that may be generated from it, or enhancing the positive consequences that may arise from advantageous situations.

Thus, the positive or negative outcomes of online higher education, the way in which the future of work is shaped and its impact on professional practice, and the subjective well-being of future professionals are all susceptible to being addressed through prognostic intelligence.

The concept of prognostic intelligence involves a predictive rationalism, broader than classical philosophical rationalism, since it involves not only the use of reason modeled by experience to know a phenomenon, in the Kantian sense. Rather, it corresponds to thinking about a future apocalyptic or advantageous action, assuming that it has already happened, in order to analyze from there the sensitive, experiential and cognitive contents of professional life that have been affected (**Figure 2**).

The following scheme summarizes its components:

The sensible contents of professional life correspond both to subjectivities and to those that are experienced bodily, such as emotions and intuitions. The latter, in the sense proposed in Leibniz’s humanistic philosophy. Here, intuition is based on an infinity of perceptions, which are not conscious, but are nevertheless part of our lived experiences as “sensations”. Experiential contents, on the other hand, are those daily experiences that allow us to give meaning to the different aspects of professional life. Cognitive contents, in turn, correspond to the intellectualizations that are available in the cultural collections with which higher education is developed, and the subsequent labor exercise.

Prognostic intelligence could be put into practice during the formative process, analyzing the positive and negative consequences of online higher education in times of pandemic, the future of professional work, the possibilities for

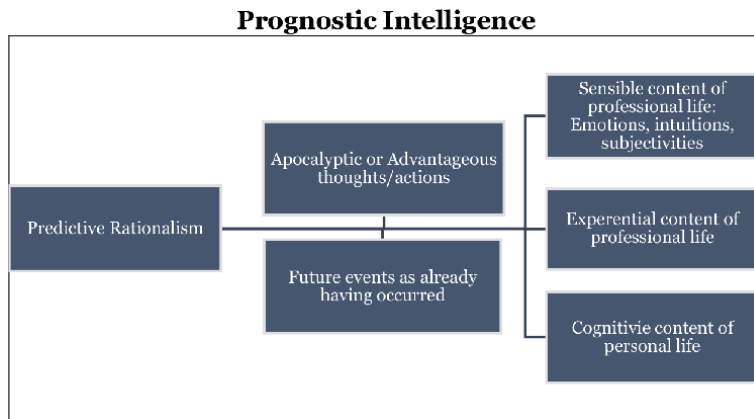


Figure 2.
Source: Author, 2021.

professionals to develop their tasks with increasing levels of subjective wellbeing, and the crossroads for higher education. This would also allow the development of this professional skill as a tool that professionals would have upon graduation from higher education. Where some will become responsible for the formation of new cohorts of their professions, or more broadly, of their professional areas, this tool will continue to be transmitted, thus becoming part of the professional ethos.

At the same time, the review of the consequences of an advantageous or apocalyptic event, taking into consideration all these types of contents of professional life, would make it possible to outline a future of higher education with greater possibilities of paying attention to the consequences of contextual events, opening up opportunities to embrace new ways of development.

6. Conclusions and recommendations

The crossroads discussed result from the massification, segmentation, and fragmentation of higher education, changes in education, and the future of professional work. Given exacerbation from social turbulence – and in Latin America¹, especially since 2019 – the need to develop visionary strategies to face such challenges has been made apparent. Indeed, these challenges have been met, in part, by online academic work as a way of expanding student cultural, social, and symbolic capitals; as well as access to different worlds, cultures, realities, and subjectivities.

Furthermore, trends in the future of professional work show students need to develop ubiquitous learning, i.e., the ability to learn by themselves, to make use of skills such as abstraction, reasoning, synthesis and critical thinking. In this regard, prognostic intelligence – which amalgamates cognitive, sensitive and experiential contents – offers a predictive rationalism about future events to enhance the development of these skills, at least, during professional training; and, ideally, throughout educational models before and within higher education. Implementation would expand upon these and other professional skills in the immediate future, open alternatives in the labor force, and promote advantageous (over apocalyptic) prognoses of future

¹ These reflections derive from the research “Rethinking undergraduate training in social sciences in Chile from the imaginary of the future of professional work”, Cod.DI / 37.0 / 2021, funded by the Vice Chancellor for Research y and Advanced Studies of the Pontificia Universidad Católica de Valparaíso, Chile, to whom we thank the financial and academic support.

events. Similarly, prognostic intelligence would facilitate teaching approaches in the face of inevitable transformations in both higher education and in professional work.


While self-learning – and the associated skills in abstraction, reasoning, synthesis and critical thinking – facilitates ubiquitous learning, increases the subjective well-being of professionals, and expands new worlds of opportunities, there remain emerging social problems that require investigation and inputs for policies to address them, worldwide and in Latin America particularly. Open questions include the structural de-qualification of qualifications, the imaginaries of future professional work, the effects of teaching and utilizing prognostic intelligence, and the impacts of artificial intelligence on the future of training and professional work. Research and policy approaches should consider the realities of different latitudes, the transformational contexts in higher education and labor, and the upcoming crossroads generated from such changes.

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Globalization and Education: Trends towards Sustainability

Maria Olga Bernaldo and Gonzalo Fernandez-Sanchez

Abstract

Higher Education Institutions (IES) have a very relevant role in the path towards sustainability. The problem of the implementation of curricular sustainability is the disparity of solutions that can be adopted depending on the political and economic situation of each country. The study of a practical case in the south of Honduras allows the student to approach key decisions in a real scenario to bring improvements to a very disadvantaged population, lacking basic services, such as water and electricity, under the premise of sustainability, facing aspects as relevant such as sustainable mobility, water resources management, energy and construction models, in a context where globalization and technological innovation play a very important role. It is essential to know in depth the real context where structural changes will be applied to understand that there is no single reality, that actions are built adapting to specific situations and that the effectiveness of the measures that can be adopted to establish models that prioritize that part of sustainability that best weighs the balance between the environment, society and the economy for each case.

Keywords: Sustainability, Globalization, Environment, Higher Education Institutions, Technology

1. Introduction

Education for global citizenship is presented as an opportunity within the framework of the 2030 Agenda to promote solidarity, justice and equality in Higher Education Institutions. It is a totally disruptive proposal that offers alternatives and that is the result of an international consensus around economic, social and environmental development and the affirmation of peace and security as an essential pillar of development [1].

Higher education institutions [2] should favor the implementation of the 2030 Agenda for Sustainable Development (SD) approved at the United Nations, and one way to promote in the student an awareness of sustainability a competence-based model so that they can solve the many challenges they will encounter in their career fields. In addition, the university must constitute a turning point between the relations manifested between citizens and the role of the State, based on its eclectic capacity and adaptability to social needs and its role as a transforming entity and promoter of change within the great challenges of the sustainable development and existing processes of discrimination or social exclusion [3].

The advancement of scientific knowledge, technology and innovation constitute a cross-cutting objective for SD within the 2030 Agenda for Sustainable Development [4].

The curricular or academic sustainability does not only include environmental content in the agenda, involves one series of changes that include aspects such as those proposed Ull, MA [5]:

- Replace the static and fragmented vision of reality with a complex and dynamic vision, with the ability to overcome the tradition of decomposing reality into unconnected parts and open the University more to collaboration with society and social organizations in the resolution of problems. Socio-environmental problems.
- Strengthen disciplinary flexibility and permeability to promote systemic and relational thinking, through the incorporation of interdisciplinary work projects, between different areas and subjects.
- Improve the functionality and contextualization of teaching, incorporating the study and treatment of local and global problems, and reinforcing collaboration with local entities.
- Promote coherence between theoretical discourse and action, between theory and practice, programming practical work consistent with theoretical proposals and trying to ensure that the management of the academic institution is also consistent with sustainability.
- Adopt a constructivist epistemology and a comprehensive conception of education, which makes an explicit recognition of diversity (of students, cognitive styles, cultures, situations, etc.), recognizing the active role of individuals and groups as active subjects of the history and construction of your knowledge; and promoting, also, a comprehensive training of students, in their intellectual, psychomotor, affective, social and moral dimensions.

According to Fernández-Sánchez, G & al. [6], the deployment model curriculum sustainability is an important support in the technique of project - based learning (PBL) encouraging students to develop attitudes, skills and knowledge to make it as professionals committed to SD.

This path towards the sustainability of Higher Education Institutions cannot be followed if the concept of globalization is not included. The education is not can escape globalization processes. Globalization has impacted on different areas, the educational field being one of them, indeed, we could say that the phenomenon that has the greatest impact on the educational field is globalization, which includes within itself the advances of new Information Technologies and Communication (ICT), as well as social and cultural changes [7].

According to Fazio, H [8], no brief explanation covers the wide range of real, discursive, imaginary and symbolic contents that the concept of globalization entails and to which it can be alluded. Globalization involves the expansion and intensification of social, economic and political relations across regions and continents [9].

In this sense, Piana et al. [10] define globalization as a contemporary phenomenon determined from its multidimensionality, which allows the generation of new spaces and, therefore, new spaces adapted to a new reality, generating the need to identify concepts that adapt to a changing society, with the possibility of

establishing a relationship between local development and the dynamics proposed from the global scope.

But it is true that the globalization process is experiencing a profound crisis that calls into question the supposed advantages offered by its paradigms. The commercial opening, the control of inflation and the public deficit, as well as the thinning of the states and the dominance of the market; they have only exacerbated poverty and income concentration [11].

Therefore, notes Martinez, E. [12] in their article “Ethics of development in a globalized world”, in an irreversibly globalized world, development ethics points out the main arguments, concepts and principles that can guide development policies within countries and also in international relations. Since it was born in the 1960s, development ethics have largely driven the transition from an initially very poor development concept to the current complex concept of sustainable human development.

In this context, the key question [13] is, how universities can contribute to better positioning themselves in relation to globalization? The answer is multiple:

- Regarding training:
 - Prepare more citizens to assimilate more knowledge and to participate in a process of permanent and rapid change.
 - Improve human capital, training more scientists and engineers strongly imbued with values.
 - Improve the employability of graduates, giving them an education that encourages entrepreneurial vocation and those prepared to contribute to the innovation process.
- In research and development:
 - Strengthen research: more research and better quality.
 - Strengthen the connection between innovation and business.
- In relation to the structural change of the economy:
 - Support the creation of technology-based companies through “incubators” and other mechanisms
 - Support the technological improvement of existing companies and sectors through systematic technology transfer programs.
- In relation to regional development
 - Contribute to local and regional strategies for the development of the territory in contemporary times (knowledge plus values).

Tools such as service learning in international cooperation projects are shown to improve the acquisition of skills related to sustainability by the student. The link between service learning and Education for Sustainable Development empowers the student with a deep analysis of poverty, its origin and its link with SD and the importance of adopting alternatives to face the change of unsustainable lifestyles [14].

One of the aspects to be addressed when talking about globalization, sustainability and education is mobility. The different options that you choose at each point of the planet are the subject of deep reflection.

Most of the proposals for urban mobility are based on the correlation given by UN-Habitat, which dictates the guidelines of the city of tomorrow and how to correct those of the present. These are visions from developed countries that they want to impose on those who are underdeveloped. The underlying logic is simple: facilitate the movement of people and goods for production, in countries where there is a risk that their urban systems will collapse, and their commercial interests will be affected. Hence, the proposals, which come closest to promoting subjective well-being, such as creating walkable cities, come from and are implemented in developed countries such as the Nordic ones. While, for poor countries, “sustainable” urban mobility models are imposed on them, based on collective transport [15].

In the documentary “Road to School”, directed by Plisso, P [16] is the true story of four children, heroes everyday narrates - *Jackson, Carlitos, Zahira and Samue* - who must deal daily with a multitude of adversities and dangers to get to school. These children live in four distant corners of the earth, but they share the same desire to learn and are aware that only education will s open doors to a better future.

The images of “On the way to school” are shocking due to the strong contrast they suppose in front of the western day life, since in our society we are accustomed to seeing parents driving their children to the door of the school itself, or in his defect accompanying them by the hand or leaving them at the foot of a school bus. None of this exists in the four cases documented by Pascal Pliso in the savannas of Kenya, in the vastness of Patagonia, in the rugged Atlas Mountains and on the winding coasts of India. At the four points, distant from each other, these school-children leave their home very early every morning to make a long journey on foot, on horseback or even in a wheelchair, and thus get to the nearest school. The distances traveled range from four to twenty kilometers and the average duration is between an hour and a half and four hours [17].

A similar case is the one reported by the organization “Céntimos Solidarios” with the acquisition of a vehicle for school transportation for boys and girls from 7 rural communities in Alta Verapaz, Guatemala. The remoteness of some communities from the school it hinders access to education and food that is provided. Some of these children must walk in adverse situations, due to the orography and climate of the place, up to more than 4 hours a day accompanied by their mothers. The acquisition of a vehicle will improve the educational and nutritional development of, initially, 75 boys and girls from 7 villages with a predominantly indigenous population, very impoverished. The schooling of these children is a fundamental tool to get out of the cycle of poverty and exploitation to which they and their families are subjected. The improvement of mobility, with the implementation of adequate school transport, will favor the access and permanence of boys and girls in school.

Save the Children focuses, in its annual report “The Mundia State l Mothers” education of girls as a way to ensure a healthy and prosperous future for all children, the report stresses the need urgently to attend the 58 million girls out of school. The report highlights that there have been countries that have successfully tackled the problem of girls’ schooling, thus demonstrating that effective solutions to this challenge can be found, even in the world’s poorest countries.

It is worth highlighting the article in the newspaper “El País” entitled “This is how the life of cars is lengthened while that of humans is shortened” Pskowski, M [18] where it is pointed out that when rich countries tighten the regulations on emissions from vehicles, many are exported to the global South. And with them, pollution. Some of the highest air pollution levels are recorded in small countries like Guatemala, Bolivia and Honduras. They all share several characteristics: poor

public transport systems, low purchasing power and the absence of strict regulation of vehicle emissions. Of the 15 Latin American countries analyzed in a report by the Council for the Defense of Natural Resources published in 2014, only seven had regulations on PM_{2.5}.

A report published in July 2018 by the New Delhi Center for Science and Environment (CSE) pointed to “*tartanas*” that are exported to underdeveloped countries in Asia and Africa as the main source of air pollution in those areas. The report calls the practice a form of “toxic dumping,” and recommends that developed countries apply stricter controls on the vehicles they export. The CSE report recommends that developed countries limit the age of the vehicles they sell and take steps to ensure that obsolete cars are scrapped or recycled rather than sent to other countries.

In a globalized economy, both developed and underdeveloped countries have a role to play in reducing emissions from the transport sector. Enjoying a clean environment is a human right, but people in developing countries are too often short of breath [18].

As Barkin, D. [19] points out, in the world, poor people are accused of destroying their environments. These accusations, then, justify the policies that later threaten the very existence of traditional social groups and their productive systems. Their inability to adapt is evidence that reinforces the idea that these groups are the cause of social and economic backwardness in rural areas. Even in the most modern societies, “blaming the victim” for their own situation and their lack of collective progress is a common phenomenon. The poor plunder the land not because of their callous waste of resources, but because of the lack of an equitable distribution of available social wealth and the ruthless way in which the rich and powerful defend their control. The disparity in the prevailing social and productive systems is leading to disaster. With rising unemployment and discrimination against small-scale rural producers, environmental degradation is proceeding rapidly.

Therefore, the question, are developed countries to blame for environmental degradation? and, therefore underdeveloped countries do you have the right to pollute more? These issues raised Pérez-Blanco, CD [20] question the model of extensive growth that is taking place in certain countries and regions, which in some cases is destroying the wealth of these regions and their future prospects development (overexploitation of water resources and non-renewable energy mix in the newly industrialized countries; desertification and overexploitation of forest resources in failed African states; deforestation in large emerging states). Should we not question whether poor countries should have the same right to pollute (or more) than the rich (assuming that the right to pollute any), but if a model of aggressive growth with the environment report to those some benefit beyond the short term or, on the contrary, it will condition its possibilities for future development.

Another of the key aspects in terms of sustainability are those related to the management of water resources and sanitation networks. Access to drinking water and basic sanitation at the rural level is a challenge for many countries. Regarding the origin of the water, groundwater is considered as the hidden scaffold that underpins much of modern life. Around the world, almost 40% of the food we grow is irrigated with water extracted from the earth’s subsoil [21].

Without water there is no health. No education. Nor equality between the sexes. Can that some of these relationships is not to obvious, but all there. The first is perhaps the clearest: the World Health Organization (WHO) estimates that for every dollar invested in drinking water supplies, between 3 and 34 are saved in sanitation . The hours that minors spend transporting this liquid instead of going to school explains the second. The fact that it is women who usually carry the burden of providing for their communities after endless journeys in search of wells or rivers

clarifies the third. And they are just three examples: agriculture, energy, nutrition, infant mortality has a close relationship with water. Without it there is no development or a way out of poverty [22].

In this sense, according to Pulido, A [23], the question to ask is whether the use of groundwater is compatible with the sustainable development of a region? Is it overexploitation? The answer is not easy given the wide variety of circumstances that may exist. Now, there are many cases in which overexploitation is the only solution while other resources arrive, coming from other basins or of diverse origin (desalination of marine waters, brackish waters, ...). Numerous aquifers around the world are subject to exploitation because of increased demand for agricultural and domestic use.

If the overexploitation of aquifers can be considered as something necessary and justifiable under certain circumstances, what is critical in this equation is the lack of sanitation networks. Getting water to any corner of the planet could become a useless effort if the waste generated by its inhabitants contaminates it. The problem of sanitation is twofold: on the one hand, it requires more complex infrastructures; on the other, investments are less visible, according to Aziza Akhmouch, director of the OECD's Water Governance program: "When a politician, a mayor, for example, brings drinking water to a population where there was none, recognition is immediate and the revenue, too. Sanitation is a second stage that is more complicated to implement but has a great impact, since its absence pollutes the aquifers and affects the health of the communities" [22].

Another sector that is considered key when it comes to sustainability and globalization is electricity. Although the overall electrification rate continues to rise, with more than one 89% of the world population with access to a reliable source of electricity, it is estimated that there are still about 840 million people who lack this service.

In developed countries there is a boom in the development, manufacture and use of clean and renewable energies. But this does not happen in poor or underdeveloped countries that continue with the old scheme in their energy matrix based on oil, gas and coal and, as happens in very poor areas, the use of waste plastics to light the kitchen and make the food. Not only that they invest little in increasing their power capacity which is not only essential for economic development but to improve the quality of life of its population, but they are wrong when they do. It is common to hear that in Latin America or Asia it is planned to build a new coal plant.

One fact that calls for reflection is that the 19.5 million inhabitants of New York consume the same electricity in a year as the 791 million of sub-Saharan Africa. Secure access to modern energy sources is the foundation on which the prosperity of advanced economies rests. In these, the energy debate revolves around the security of supply and the decarbonization of the mix, while in many other countries the priority is to have enough energy to satisfy the basic needs of its inhabitants. Not surprisingly, access to affordable and reliable energy services is essential to reduce poverty, improve health, increase productivity, increase competitiveness and promote economic growth [24].

Poor countries must use and exploit renewable energy to improve the quality of life of their population, combat climate change and achieve sustainable economic development.

And finally, this document analyses the impact of construction. The construction technology institute maintains that around 2 tons of raw materials are needed per square meter of home construction, that the amount of energy needed to obtain these raw materials represents the energy consumption of a family in 12 years and that construction and demolition waste represents more than one ton per year per inhabitant.

According to Rodriguez, L et to the [25] the construction sector it generates a significant impact on the means by resource consumption and waste generated and, therefore, is a sector with high responsibility in the context of sustainability. A sustainable architecture begins from its design, including as determining variables of its production the forms of consumption, use of soil resources, energy, water and the selection of the appropriate materials for each typology and ecosystem where they are developed.

In this context this document tries to relate sustainable mobility, management of water resources, energy and construction models economic environmental and social globalization, technological innovation, education and political realities, countries, where economic capacity determines decisions in these areas and the way to face the challenges that arise.

2. Scope and objectives

In 2009, the Department of Civil Engineering of the School of Architecture, Engineering and Design of the European University began an international cooperation project to offer students the opportunity to carry out final degree projects (TFG) and final projects. Master's degree (TFM) in real contexts, but in countries with lower rates of economic development than Spain.

The first three years the students travel to Ethiopia, in 2012 to Guatemala and, from 2013 to 2019, to Honduras. It was about putting into practice the knowledge learned in the classroom in real contexts but very different from those existing in their environment. In these circumstances the student was forced to set different working schemes, with significant opening exercise in relation to the knowledge acquired in a Higher Education Institutions (HEIs) from Europa. Some advances in these works have been published by Bernaldo, MO et al. [14].

One of the main differences was in the considerations that they had to adopt in relation to sustainability, the weighting of the balance between environment, society and economy and the possibility of implementing solutions that would bring technological innovation to the project.

The objective of this article is to carry out an essay and propose a reflection on the state of knowledge in relation to the different sustainability proposals in different contexts in relation to a real case, as well as to review the trends of the western world and the needs of the third world.

3. Practical case

The Universidad Europea (EU) has an international cooperation program, which has been carried out since 2009, where students of all years are incorporated with the aim of carrying out, as already mentioned, the TFG and TFM in real contexts in order to apply the knowledge acquired in the classroom through formal learning to concrete practical cases.

The first project was carried out in Ethiopia with the design and construction of some basic infrastructures identified as priorities for the local society (construction of dams, implementation of water distribution networks, irrigation and sanitation) and the performance of work related to health in the environment of orphanages (studies of diseases, deformities, medication and health system). This project involved disciplines of civil engineering, physiotherapy, pharmacy and medicine. It was financed and supported by the Spanish Agency for Development Cooperation (AECID) and the University of Addis Ababa. Within this framework, it was decided

to incorporate the students of the project through a volunteer program, through the development of microprojects and end-of-degree projects/end-of-master projects in real contexts. In the Ethiopia project, a total of seven end-of-degree projects/end-of-master projects were carried out in different disciplines (physiotherapy, information and communication engineering and civil engineering).

Subsequently, five students from the Civil Engineering Degree traveled to Guatemala to carry out a study on water distribution systems in the city of Tecpan with the aim of analyzing different alternatives that would guarantee the supply of drinking water to the population. Two final degree projects were carried out in Guatemala.

In 2013 he started a new volunteer program in collaboration with the Cerro Verde Foundation (FCV). It focused on a small village, Cerro Verde, in the Choluteca region of Honduras. This project in Honduras (2013–2019) is the selected case study.

These volunteer work is carried out in the village of Cerro Verde in Honduras at the request of the Fundación Cerro Verde (FCV) which, knowing the work carried out by the UE in Ethiopia and Guatemala, decides to establish a collaboration agreement to generate synergies between the needs of the local population and the knowledge that the UE has in the university field and in the field of International Cooperation projects to technically solve the requirements of the projects to be tackled in the area.

The village of Cerro Verde is located in southern Honduras, one of the most depressed areas of the country, without water or electricity, where for some years they have suffered a severe drought that has decimated crops and forced part of the population to emigrate to the United States and Europe. In this context, a series of changes in the village are addressed, aimed at improving the quality of life in the village.

Among all these improvements, it is worth highlighting the significant change that has occurred at the educational level. In the village there was a school that allowed the population of the area to undertake primary studies, from first to sixth, from 6 to 11 years. High school and university studies forced students to move to other towns. This situation meant that the inhabitants of that area, both in the village of Cerro Verde and in the neighboring villages, dropped out of school given the economic difficulty of assuming the economic expenses that for the families the displacement of their children to other towns. This economic difficulty has two biases, the first one to pay the economic amount that the trip to school and the other, although it is indirect, it is no less important, and it is the one that has to do with the poor condition of the accesses between populations and the time that children/young people would spend on these movements. It must be taken into account that, in the conditions in which this population lives, the participation of all members of the family in domestic, agricultural and livestock tasks is essential, if a lot of time is spent traveling to school, it is not necessary. They can dedicate themselves to these tasks.

In this context, the FCV decided to expand the school that would include all the courses prior to entering the University and avoid dropping out at an early age. This expansion greatly benefited the inhabitants of the village of Cerro Verde, but for the population of nearby villages the problem remained the same. This meant going from a school that housed studies for 53 children to a school that currently has 355 children from the Cerro Verde Village and 15 other nearby villages.

For this reason, it was decided to design a mobility plan that would prevent students from walking the path, in some cases the time exceeded two hours for each route, and a mobility plan was designed that consisted of hiring the services of a bus with a tour that will reach most of the surrounding villages, funded by the FCV,

and allow students to invest less time on the route to school. This tour is done in a gasoline bus, with many years old.

Although it is considered an ideal solution to favor the highest possible schooling of students in the area, the analysis of this mobility plan from the perspective of some indicators of sustainability, such as environmental and economic ones, holds up worse.

From an environmental perspective, student mobility plans in more developed countries are being designed, thinking of low-polluting vehicles and/or the creation of safe routes for the student to either walk or cycle by favoring and promoting healthy exercises from an early age.

And, from the economic perspective, the non-institutional nature of the economic endowment of the mobility plan leaves the continuity of the project and, therefore, its sustainability to the risk of the financing of a private foundation.

Regarding water resources, the village of Cerro Verde did not have a water distribution network. This forced the inhabitants to make long journeys on foot for sourcing when sources close to the village were exhausted, a situation that happened several times over a year. This provision was not only for human consumption, but also for livestock and agriculture, sectors that constitute the way of life of the population.

This situation led the FCV to execute a drinking water distribution network for human consumption from the water extracted from one of the two wells, it executes two.

The critical situation in the population 's has led to the use of the water obtained drinking from this well not only for human consumption, but for agriculture and livestock. In addition, if the estimated water consumption before implementation of the distribution network water was about 10 times less than the usual consumption in a developed country is logical to think that this value increases significantly with the ease and convenience reporting n networks water distribution. This situation can generate in the future a situation of overexploitation of the aquifer that can lead to a decrease in the piezometric or water table level to the point that the springs dry up and the flow of the rivers is diminished or exhausted, even to their contamination.

Since this is the only viable solution for a population so neglected by the institutions, from the perspective of sustainability, agricultural, technological and management policies that consider the local/regional context would be necessary to provide solutions that considering the social, economic and environmental impact, it would allow establishing strategies at the regional level to guarantee the continuity of the project. The proper management of the water resources is the key to ensuring the sustainability of a water project and that requires institutions to be involved in a holistic manner in decision-making and financing of projects.

The abandonment of institutions in this region affects both the supply of water to the population and the installation of sanitation networks, both in relation to the very existence of the infrastructure and the quality and provision of services of the existing ones.

Regarding the electricity supply, the village did not have electricity, there were only some houses with solar panels that allowed them to charge batteries and light a light bulb, the rest of the population depended on the solidarity of the neighbors. About recharging mobile phone batteries, it must be considered that many family members work far or even abroad, so their only way to maintain family ties is through this type of device.

For this reason, local institutions were involved in the construction of the electrical network and thus provide the area with electricity supply. This has meant a very significant improvement to the population that has allowed them to expand

their way of life with businesses that were previously unviable and, in addition, the use and access to common technologies in any home that were not possible without electricity. It goes without saying that, in addition, it makes lighting possible inside and outside the houses. It was difficult to study in school on rainy days without lighting.

According to the analysis of the electricity sector and its efficiency carried out by Flores, MA [26] in Honduras, it points out the lack of interest on the part of the administrations as the reason for the lack of energy efficiency in the country, a fundamental element for sustainable development. In addition, the study leads him to conclude that there is no rational use of energy, an aspect that reduces competitiveness, in the sense that the production of wealth has a high economic cost and a significant environmental impact. Among the general energy policy objectives set by the government in 2010, 2 are worth highlighting:

1. Achieve, under a comprehensive approach, a greater share of renewable energy resources within the energy balance and articulate a system to promote efficiency and rational use of energy, thus reducing dependence on imported fuels, considerably increasing the share of generation of electricity from renewable sources and improving the sustainability of the long-term supply and of the own resources
2. Achieve significant progress in the access of the rural and urban-marginal population to energy, especially electricity, within the framework of integrated development strategies for productive activities and basic social infrastructure, in addition to achieving a significant improvement in use efficient use of firewood, raising the quality of life, at the same time as the sustainability of the wood energy supply.

This approach clashes head-on with the reality that the FCV encountered in 2013 when it first arrived in the village.

By last in the part relating to the building, I should mention that a large majority of the houses are built with local materials, constructions of clay, tile and wood requires high maintenance. The torrential rains, which are common in that area, along with use and age of the houses, generates significant impairments that require significant and costly repairs. This has led the inhabitants to use more resistant materials that require less maintenance, such as the concrete that they use both for repairs and for the construction of new homes.

The use of the area's own materials for the construction of buildings, in addition to being a more sustainable practice, has generated, throughout the history of humanity, a seal of identity of the peoples favoring constructions that show a certain mimicry with the environment. The village of Cerro Verde is characterized using materials from the environment for construction, but a gradual transformation is observed, coupled with the growing purchasing power of its inhabitants. This transformation has led to the change towards the use of more resistant materials that require less maintenance to the detriment of the use of indigenous materials.

It is necessary to consider how to optimize the use of materials in the area, preserving the type of construction that had been used, taking advantage of its advantages and, looking for a way to improve its properties to favor its use and maintenance, as stated by Rodríguez et al. [25], thus avoiding the economic and environmental costs of acquiring non-native materials.

There is no doubt that the work carried out by the FCV has led to a significant improvement in the quality of life of the inhabitants of the Cerro Verde village and

nearby towns, allowing a very significant number of children and adolescents to opt for the education, with access to drinking water that prevents both children and women from spending part of their time on family water supply and carrying heavy loads from an early age, as well as opting for electricity that has led them immediately into the 21st century.

Now an important question should be raised: the improvement in the quality of life is more or less sustainable than what they had before the FCV intervention. The fact that these actions are not sponsored by a reliable state that ensures the life of the project is a negative indicator. The lack of that holistic view of the problems in the area and the medium and long-term solutions in the region that can only be provided by administrative managers by evaluating the priorities and real technical and economic possibilities of the country is also a negative indicator.

The importance of accessibility, transport, mobility and infrastructure in improving people's quality of life is not questionable, but this makes environments more unsustainable if they are covered by second or third lives of Western projects and there is no institutional support to ensure the life of the project.

4. Discussion

Involve students in this type of projects where the formal knowledge acquired at university are put to the service of the most disadvantaged populations contributes to the skills student perspectives, values and, ultimately, competitions, that the accompanying in their professional lives by incorporating a way of looking at the real situation of the most disadvantaged population, the possibilities for improvement that can be incorporated and their role in society.

The profile of the student and his environment are different from the reality of life in the village and therefore the life experience of the student in this environment involves a thorough analysis of poverty, its origin and its relationship with the D S.

The lack of resources with which the student works, both in terms of means such as light and internet connection, as well as those that exist in the environment to adopt sustainable technical solutions, favors developing skills that they have not needed to use in learning Formal classroom and now are necessary to achieve the most appropriate solutions for addressing specific context.

Works in real projects it means is that their proposals are going to be implemented, therefore any errors and/or failure will hurt very significantly to very vulnerable population. Each of their decisions in relation to the project design, types and quality of materials, implementation procedure, useful life and maintenance are key to the SD of the local population.

Now, when you talk about SD of a project, is it based on the same premises that the student learns in the classroom? It is here where the trends of developed and underdeveloped countries are shown compared to innovative projects in both places in infrastructure, building, transport and mobility. Here the role of the teachers who accompany the student is complicated. Is the distance when talking about SD between the different countries based on their economy?

The difficulties of reconciling economic development, social improvements linked to the quality of life of the population and protection means environmental magnified when there is no opportunity to propose the best solution if not just before solving concrete problems of the population.

The complex balance between spatial planning and the integration of mobility plans has a significant impact on SD. The sustainable mobility trends that are developing in Europe are generally more holistic in nature, although it must be considered that there is some neglect when it comes to mobility in urban areas.

Mobility and transport are dependent, this implies that, to improve mobility, it is necessary to improve transport. Transport should be understood as the action of moving people and goods from one place to another; therefore, transport is conceived as the technical element of mobility. Therefore, sustainable mobility must be understood as a new way of facing transport problems from an integral framework, which seeks the equitable use of the road system, the reduction of environmental degradation and the increase of accessibility [27].

According to Esteve, J. [28] the new trends expected to take hold in the next decade on the way in which we move are the autonomous driving, “ carsharing “ by vehicle rentals for short periods of time, intelligent traffic that allows sharing data such as the state of the road, time and destination, mobility understood as a service and intelligent public transport, increasingly clean and efficient to increase frequencies of passage and thus transport more travelers.

All this promoted and managed by public administrations that apart from regular or regulate include mechanisms to promote good practices, encourage innovation in sustainability and favor a change in transport habits in cities and the adoption of healthy habits.

The options of populations neglected by public administrations, in the case of mobility, leave the transportation possibilities of their inhabitants in a very vulnerable situation. In the specific case of the Cerro Verde village and its surroundings, with very deficient infrastructures, consisting of dirt tracks in a very bad condition and a single bus that makes a single round trip per day, mobility is reduced by very significantly and contingent on the particular vehicle, scarce in this area.

In this situation, school mobility plans cannot be governed by the same parameters or approach current trends in sustainable mobility. While in the occidental world, mobility plans are sought based on the number of places offered and the distance that gives more weight to collective and sustainable modes of transport, reduction of greenhouse gas emissions, reduction of noise pollution, increase of social equity in access to all goods and services and access that favor walking to get to school [29]. In less developed areas, students can go to school and be educated academically. It is a look towards sustainability from a solely social perspective, but key to favor the advancement and improvement of the population from the academic training of children and young people.

A similar reflection has to be raised in the part related to the management of water resources, where the priority is that the population have potable water and that diseases associated with the consumption of untreated water are minimized, until public institutions adopt the management of water resources in the area and include a sanitation plan to avoid contamination of aquifers, among other damage to the environment.

The growing trend in the use of renewable energies is practically exclusive to developed countries. It is part of energy policies and is reflected in the legislation of many countries. As noted, Honduras is an example of this type of politics, but the reality is that it is only on paper, is what is also providing electricity, although not renewable, the rural areas across the country, but also only on paper. Therefore, we return to the same point, the actions that can be undertaken are not done looking for sustainability, they only seek to provide the population with energy sources and, therefore, the only indicator that is appealed is the improvement of the conditions of life of society.

The advantages of using native materials for construction are undeniable, both because they avoid the transport of foreign materials, and because of their natural origin and the possibility of recycling that they report. In the case of the town of Cerro Verde, in addition, being an area that reaches very high temperatures many months a year, the houses made of clay, wood and tile preserve temperatures lower than the outside temperatures.

As has been pointed out, the lack of resistance of the materials to inclement weather and the wear and tear of use together with the construction typology is what leads to repairs/new constructions with non-native materials, moving away from the sustainable housing models that are currently being promoted in the developed countries.

The case reinforces the idea of the different needs between the first and the third world (mainly in villages) although with certain similarities in rural environments. Rural depopulation in some countries has underlying problems of the same characteristics as those indicated around the Cerro Verde village, all of which are linked to the loss/shortage of basic services and the lack of employment. The characteristics of agricultural and industrial technology, the economic geography of business activity and the highly dispersed nature of the rural population, among other factors, make it difficult for rural populations to resolve these problems [30].

5. Conclusion

The acquisition of skills by students with the incorporation of this type of project is very relevant. Being first-hand participants in decision-making in some cases opposed to the proposals that are currently being made in the classroom allows them to assume and understand that there is no single reality and that actions are built adapting to specific situations. And, the most important thing, that the context where you are going to work must be known in depth to act with coherence and rigor.

In addition, the student verifies that the incorporation of new technologies in some cases brings significant and necessary improvements to the projects, in other cases they are unfeasible because they require elements that are not accessible in the area and in other cases it requires the adoption of innovative solutions to make it viable in that context.

And, on the other hand, it understands and applies a vision of sustainability where it prevails to solve the basic needs of a population, such as water, electricity and education, trying to get as close as possible to the ideals of SD.

They are also witnesses of how populations that were closer to the ideals of sustainable construction revert their situation when using new technologies they could apply improvements to avoid “going backwards” on the road to sustainability.

The important thing in the university is to learn to think, to develop a critical spirit. Development cooperation and international service learning allows us to know other realities, other problems, and even to reflect on given solutions and their consequences. To realize that development cooperation should not be one-off volunteering, but rather a commitment to the planet and sustainable development and a deepening of the anthropological world and its different conceptions of the world. To understand that what they have learned in all the years in college solves some problems for some, but not for all, and that not everything is black and white.

Globalization in the actions carried out by the FCV has had positive effects on the part related to relations with local and national institutions, which are based on good international relations between Spain and Honduras, and which have been favored by the role that the ambassadors who have been in Tegucigalpa have played with the support of the projects carried out. In addition, it is worth noting the cultural exchange that has meant that both the members of the FCV, as well as students and teachers of the European University, lived together in the village in private homes.

The negative effect of globalization is linked to the creation of an ideal of Western life and consumption, which accept models of Occidental World, traditions

and cultures, which generates the loss of their own roots. Market growth proposed globalization occurs only in the countries with raw materials of interest. Therefore, certain countries (in Africa, Asia or America in the developing world) cannot grow or develop because they do not have the ideal raw materials. Globalization only benefits a few because the economic expansion is only sought if it is profitable and also supports a business system that does not respect SD.

The solutions adopted in matters of sustainability are not universal. Not even the order of priorities is. The progress made in certain countries generates different priorities than the countries that have not yet reached them in terms of citizen insecurity, pollution, health systems, infrastructures, etc. In addition, there are situations, such as the sale of used vehicles to the third world that generates more pollution than the existing one.

Furthermore, adopting “western” solutions may lead to situations of greater “unsustainability” than the existing ones. Kapuscinski [31] already related the different needs and conceptions of the world and the problems of different parts of Africa. Perhaps the solution is not to repeat the Western success/failure model, but to devise new solutions from the EMIC perspective (perspective in which the researcher obtains the internal point of view) of the local and not from the ETIC superiority (the researcher looks at the field of research objectively from a distance) of the one who “believes himself superior”.

In fact, the solutions adopted do not always work. One of the most important aspects for the management of international cooperation projects for development is the definition of its success and failure factors. However, the perception of what is considered as success or failure varies depending on the perspective from which to observe said management and its results achieved. One of the main problems of international cooperation projects is that the interested of the NGOs/foundations is focused mainly on meeting the project objectives, they do not necessarily reflect at all times the interests, needs and the real expectations of the population to whom they are addressed, but they tend to respond more directly to the institutional policy guidelines of the international cooperation agencies responsible for their financing [32].

In addition, as I to cooperative development rests on microprojects and not in structural soundness of local and national (governance) institutions remain in short - term projects and serve as a “band - aid” but do not solve the problem and even accrue [33].

A very significant fact in this regard is that, after the millions invested in cooperation projects, the data relating to the sustainable development of the most disadvantaged populations does not improve globally.

The role of FCV has been key to improving the living conditions of the inhabitants of the village Cerro Verde and towns nearby, but institutional support is required so that, based on this basis, work is done to provide all these actions with the sustainability they require to guarantee their continuity and preserve the environment. The FCV has been working to achieve this institutional support since the project began. It is being a long and arduous road. Hopefully the FCV succeed.

All this has led to an evolution in the cooperation proposals that are raised in the UE, trying to configure more multidisciplinary teams, with broader points of view, that allow reaching more adapted and sustainable solutions, that understand the complexity and the real scenario, that revert to specific solutions to specific problems.

In any case, it is considered that education in the Occidental World cooperatively with the third world allows students to learn new solutions, understand new problems and unlearn what they have learned, to adapt, to be critical, to ultimately seek SD that It is different in every part of the world.

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A Demographic Shift in College Students: A Preparatory Guide for Political Scientists and the Discipline

John R. Hermann

Abstract

As United States higher education moves from the gilded age to a more challenging one, this research examines how the changing demographics of American college students should influence how political science faculty teach their classes. With more first-generation, underrepresented students (FGUS) on college campuses, the study offers five best practices to improve student success for political science faculty. Additionally, the research proposes that the content in political science courses should reflect the changing demographics of our students – both in revising our existing courses and offering new ones. Finally, diversification of faculty in political science is vital when teaching students of underrepresented groups.

Keywords: trends in higher education, pedagogy, student demographic changes, political science, student learning outcomes

1. Introduction

Several scholars have examined the history of our discipline and the appropriate areas of inquiry for political scientists -- whether it is organized empirical research programs, behavioralism, neo-institutionalism, formal modeling, historical, inductive, deductive, mathematical, or economic methods (e.g., [1–3]). As social scientists, we relish asking questions related to how the social and political world works. In particular, political scientists teach and research “the constrained use of [social] power” ([2], p. 7). Or, as Laswell famously articulates that “politics” is “who gets what, when, and how” ([2], p. 8).

Less scholarly attention is devoted to the types of students we teach and mentor (but, see ref. [4]). Yet, it is as important as the research questions we ask. Like the evolution of our discipline, the types of students interested in political science change over time. Higher education in the United States is entering a transformative period. Our classes will be filled with more first-generation, underrepresented students (FGUS) than in the past. This study seeks to examine those changes among the students we teach and mentor. More precisely, this study asks two central questions: First, how will the changing demographics of American college students influence how political scientists should teach their classes? And, second, what pedagogical strategies can we use to ensure that our students succeed in political science classes?

This article is divided into four sections. The first section explores the demographic, economic, and cultural changes underway in higher education. This section also justifies the importance of a college education by demonstrating its tangible and intangible benefits. It also examines how these changes will influence political scientists and our majors. The second section offers five best (pedagogical) practices to ensure our students succeed and majors thrive. The third section examines how the demographic shift should alter the subject matter we teach in our classes. It also explores the benefits of diversifying our profession to help our understanding of the discipline and to mentor our undergraduate and graduate students. The fourth section summarizes the major recommendations of this study and offers two immediate solutions.

2. The times are A-Changin’

A sea change is underway in higher education. Demographic, economic, and cultural factors [5] are altering the landscape of students applying to college. Using county-level data for each state, The Western Interstate Commission for Higher Education (WICHE) can predict eighteen years in advance what the college applicant pool will potentially look like. WICHE currently forecasts a marked decrease in the number of White students applying to college – a 17 percent decline from public and 26 percent from private high schools in the next fifteen years. As WICHE “Data Insights” concludes, “The decreasing number of White high school graduates will be counterbalanced over the next decade by a swift growth in the number of Hispanic graduates, in particular, and Asian/Pacific Islanders ([6], p. 2). In the next decade, Hispanic high school students applying to college are projected to increase by almost 50 percent. Similarly, in the next fifteen years, there will be an expected increase of 30 percent among Asian/Pacific Islanders ([6], p. 2). Equally important, many of the students applying to college will be first-generation and/or PELL-grant students (representing all races).

The students on a college campus in the near future will look very different than those in the past (i.e., after the codification of the GI Bill in 1944 and the Higher Education Act of 1965). While the types of students applying to college will differ, there is one constant: “College is the bridge between potential and opportunity” ([5], p. XII). McGee reaffirms that a college education affords “greater job opportunities, more employment security, and higher immediate and lifetime earnings” ([5], p. 85). Additionally, virtually all liberal arts educators tout the intangible benefits of a college education, including living a fuller life, having better physical and mental health, solving problems, communicating clearly (both orally and in writing), working in teams, and being more introspective ([7], pp. 1–4). Other benefits of a college education include having “greater intellectual, artistic, and critical thinking skills, civic mindedness, marital stability, self-esteem, more successful children, greater ethnic and gender tolerance ... than their non-college counterparts” [8].

Based on the tangible and intangible benefits of a college education, universities have a high-stakes responsibility not only to educate students. They must also prepare students for their academic, career, and life goals. For those students who express an interest in political science, we cannot assume that all students entering college are prepared. As Nunn ([9], pp. 2-3) points out:

It’s important to remember that what looks like intellectual talent is likely the product of excellent academic preparation from high school and earlier ... A great number of U.S. high school schools do not adequately prepare students for the demands of college academics. At average and low-performing high

schools – the kinds of schools where many first-generation college students are likely to have attended – academic success is rooted in completing busywork assignments such as copying notes from the board and memorization without critical thinking.

As we teach our classes, we tend to use the same lectures, the same books, articles, and other sources, and the same teaching tools and tricks we observed in college and graduate school and learned as early-career faculty members. Yet, the students are not the same.

Current and future students see the world from a different perspective than during our formative years in higher education. While ultimately students must take ownership for their success, political scientists must also properly prepare students for the rigors of college. As educators, we must adapt to the changing demographic, cultural, and social forces. Otherwise, our expectation that we will have a captive audience when we teach may not be the case. There are certain best pedagogical practices that lead to academic student success.

3. Best pedagogical practices

As graduate students, our education is largely devoted to mastering knowledge of our discipline and undertaking and completing novel research. Still, as part of the academy, we recognize that an integral part of our job is teaching. If we are lucky enough to secure a tenure-track position, we know that one of the most important aspects of earning tenure is our ability to teach effectively. Yet, little time in our graduate training is devoted to working with students. Ironically, although “teaching is often considered to be a distant cousin of the ‘real’ work of a ‘true’ political scientist, especially at research institutions, the greatest exposure that the largest number of people have to political science is not through research, but through teaching” ([4], p. 10). Furthermore, it is through teaching that “directly affects who chooses to become a political scientist” ([4], p. 10).

If teaching is truly important, why do graduate schools devote such little time to it? Many early-career faculty members learn to teach on the job. When we teach, we are sharing our mastery of the material and discussing the important debates in our field. In this sense, we are sharing knowledge with our students. Yet, for students to be successful, conscientious faculty members eventually learn that there is a fundamental difference between teaching and pedagogy. Teaching involves sharing information, while pedagogy focuses on how students learn -- higher-order learning, writing, researching, and developing strong oratory skills ([10], p. 2). The faculty member’s knowledge of the material is just the start in becoming an effective teacher. Teaching students how to learn is as important --if not more – than sharing knowledge. Graduate schools would be doing a great service to devote more time to teaching their students pedagogy.

With the changing demographics of students, faculty members are likely to encounter more students who do not have the adequate preparation for college in their K-12 programs. In many high schools, students succeed by memorizing concepts. In college, however, we expect our students to develop higher-order learning skills (e.g., the ability to apply an abstract or complex theory to novel situations). Many students feel like a deer caught in the headlights. As Nunn [9] points out, “Frustration and resentment build when students do not understand why in the world an instructor requires something that is unfamiliar to them.”

There are (at least) five strategies that faculty members can use to help students succeed in political science classes:

1. Transparency in our expectations and offering pedagogical rationales in our classes;
2. Student-learning outcomes listed on the syllabus;
3. “Early alerts” with low stakes assignments in the early part of the semester;
4. Midterm grades with explicit feedback; and,
5. An understanding of the academic support system at our institution.

First, transparency in our expectations and offering pedagogical rationales in our classes help the student understand what the faculty member is trying to achieve. It also helps the faculty member know that the student understands the expectations of the course. For example, a faculty member should explain why she believes a theory is important, what it means to the student, and how the student can apply the theory to her understanding of society. Some faculty members may believe this is “babying” the student ([9], p. 16). There are distinct benefits for the student to struggle and feel uncomfortable in the learning process. Bjork and Bjork [11] call this idea “desired difficulties.” There is a substantial difference, however, in helping the student understand the significance of what the faculty member is teaching and providing the “desired difficulty” in applying the concept to other situations, that is, the learning process. A student should not have to read the “tea leaves” regarding what the instructor expects. Instead, let the student develop critical reasoning skills based on the knowledge shared by the faculty member to help the student succeed in her academic, career, and life goals. Transparency in our expectations and offering pedagogical justification should be outlined on the syllabus with reminders in class at key times in the semester.

Second, every syllabus should have student-learning outcomes (SLO’s) – specific, “well defined goals related to an issue of substance and depth, expected to lead to observable results” ([12], p. 49). Virtually all syllabi clearly explain the course material, the graded work, and sources consulted in class (i.e., learning objectives). Providing student-learning outcomes can offer a learning road map of the expectations for the class. Specific skills learned and why they are valuable will help the student learn and professor teach. For example, if there is a paper in the class, the faculty member can explain specific skills a student will learn writing the paper. A student-learning outcome can be as simple as a student demonstrating she knows how to create a clear and succinct central claim. The faculty member can also show a good example of a central claim (and what it is not). Student-learning outcomes can also be used as a measurement tool for assessing the student’s growth in the class. It holds both the faculty member and student accountable regarding the skills learned in class.

Third, low stakes assignments early in the semester with “early alerts” (no later than the fifth week of class in the semester system) to notify the student any areas where she needs improvement is a best practice. It can also be the difference between success and failure in the class. There is scholarly consensus (e.g., ref. [13], pp. 55, 57; [7], p. 103) that notifying students of deficiencies after midterms may be too late. Students, moreover, may need explicit feedback from their professors earlier in the semester; they may need help interpreting or reacting to instructor feedback with help-seeking behaviors that support student learning. Nunn [9] for example, gives a mini-midterm the second week of class to help the students know what to expect in her introductory Sociology course. Alternatively, a professor could offer a short reflection paper on the early readings. Explicit feedback with a grade

can help students understand what is expected in a professor's classes, what the student is doing correctly, and where the student needs improvement. Any student with a grade of a C- or below should be encouraged to visit the faculty member during her office hours with strategies on how to improve.

Directly related to early alerts, the fourth strategy offers a more detailed form of midterm grades. At many universities, students will receive a midterm grade at the midpoint (or slightly after) in the semester. While some universities issue midterm grades if a student is only in danger of failing, others also provide grades for students performing well in the class. Still, the student's knowledge of the grade at a specific point in time is not that helpful if she does not understand why. The grade with a rationale behind it is much more likely to help the student succeed in the latter part of the semester. Starfish and EAB, for example, are software packages many universities use to help the student understand where she stands in class and why. In my university's Summer Bridge First-Year Experience, which is exclusively reserved for FGUS, two faculty members who co-taught together met with each student individually after the student received her midterm grade. They discussed what the student was doing well, how she could improve, and what help-seeking strategies the student could engage in to remedy any issues. After the meeting, the student had one week to respond by email to reflect on the discussion. According to the faculty members and students in the class, it was the meaningful dialog that led to greater student success in that particular class as well as other classes the students were taking that semester.

And, fifth, political science (and all) faculty's knowledge of academic support resources is a vital strategy to ensure student success. Understanding our limitations as educators is central to the success of our students. After all, we do not have expertise in disability services and financial aid, as academic coaches (e.g., cramming vs. chunking), counselors, or in career services. We still have a responsibility to understand the academic support resource offerings at our institution and recognize that a one-size-fits-all approach for our students does not work. As faculty members with an interest in student success, we should refer our students to the appropriate academic support resource office. If it is online, we should forward the link to our students. If not, keep a list of the resources available and the person's name, office, phone number, and email for each office.

The five strategies discussed here are not exhaustive. Yet, they offer a strong start in the student's academic success in our political science classes. There are also strategies that are directly related to the content of our political science courses and who teaches them that will benefit our students.

4. Content changes in our courses and diversification of the profession

Political science, like all areas of inquiry (e.g., biology, chemistry, economics, and sociology), evolves. The content of political science is likely to change based on external factors. Global ecological limits (e.g., ref. [14]), cyber [15] and bio-warfare [16], the linkage between genetics and politics [17], and terrorism [18] are just a sampling of topics that are fruitful for future political science research. Existing subjects in all sub-disciplines of political science will also need to be altered to account for the changing demographics of our students.

If the study of political science is about the "constrained use of [social] power" or "who gets what, when, and how," FGUS of Latinx and Asian/Pacific Islanders origins will see the world differently than when we were trained as undergraduates and graduate students. We should not try "to make first-generation students become more like their continuing generation counterparts ..." ([9], p. 5). Instead,

we should revise our classes to consider the political culture and struggles underrepresented students have experienced. Put simply, we have to know our audience.

Political science should have a “better understanding of how changing demographics affect the contours of group identities and cleavage formations that structure many contemporary policy debates” ([4], p. 7). Latinx, the group that will experience the greatest growth in the near future, are interested in the political world and what it means to them. Of all the social sciences, “Latinos have the highest concentration of political science majors at 44.8 percent” ([4], p. 30). Additionally, Asian/Pacific Islanders choose to major in political science (32.3 percent) only after economics (35.2 percent among the social sciences) ([4], p. 30). It is in our courses that political science professors can show the importance of understanding the students’ role as informed and educated citizens. As Fraga et al. ([4], p. 38) notes, “The classroom is, perhaps, the arena in which political science has the greatest opportunity to demonstrate what it can contribute to make all citizens and residents more informed participants in defining their futures.” It makes sense not only to create separate courses that explore these underrepresented groups. It is also prudent to discuss the role of these minorities in our existing courses.

The same theoretical justification exists for diversifying our profession. As Fraga et al. correctly point out, “The overwhelming majority of political scientists are Caucasians, even among women” ([4], p. 42). Faculty members from diverse backgrounds have different experiences than the dominant culture of our discipline. Fraga et al. also reaffirms this notion by stating that, “The presumption that a group of individuals of mostly the same background across all these parameters can comprehensively study the politics of those positionalities is deeply flawed and can limit the accuracy and relevance of the resulting work” ([4], p. 13). While it starts in the undergraduate classroom, graduate schools must also actively recruit students that belong to marginalized groups. And, departments that hire minority candidates must offer a warm and welcome environment.

Unfortunately, it has been a challenge for political science to diversify the profession. In discussing the discipline, Jaschik ([19], p. 2) states that it “should be of concern in a world in which white men do not constitute the sole demographic ... [and] who does the research and what that research constitutes.” A contributing factor to hindering diversification efforts is that faculty of underrepresented backgrounds do not experience a positive work climate. Jayakumaret et al. [20] laments “that 75 percent of faculty of underrepresented backgrounds identified their campus climates as moderate to highly negative.” Feelings of high racial hostility and isolation are common for faculty of underrepresented backgrounds ([4], pp. 47–48). Sadly, underrepresented faculty “frequently pay a sort of cultural or race tax in the form of being asked to serve on committees largely because of their race, ethnicity, and intersection of gender.” While these issues are endemic on university campuses, it does not mean that political scientists cannot actively work to make their own departments more hospitable for underrepresented faculty. Mentoring underrepresented faculty is essential to retention. And, when possible, political scientists should advocate university wide for the importance of retaining underrepresented faculty. Otherwise, leaky pipeline issues will become the norm.

5. Discussion

As United States higher education moves from the gilded age to a more challenging one, this research examines how the changing demographics of American college students should influence how political science faculty teach their classes.

With more FGUS on college campuses, the study offered five best practices to improve student success:

1. Transparency in our expectations and offering pedagogical rationales in our classes;
2. Student-learning outcomes listed on the syllabus;
3. “Early alerts” with low stakes assignments in the early part of the semester;
4. Midterm grades with explicit feedback; and,
5. An understanding of the academic support system at our institution.

Additionally, the research proposes that the content in political science courses reflect the changing demographics of our students – both in revising our existing courses and offering new ones. Finally, diversification of faculty in political science is vital to include those of underrepresented groups.

Many of the recommendations in this analysis require long-term solutions. There are some strategies that can be done proactively to accommodate these major changes in student demography. Political science departments can create consortiums among their peer and aspirant institutions to discuss what the changing demography means to them. Departments can also figure out ways to help underrepresented students in their classes succeed, how the content in their courses can change, and how to retain underrepresented faculty.

Political science departments can learn more about the overall trends in higher education, since it will directly affect them. Faculty members are frequently on the front line in helping students. Departments can offer shared readings on the state of higher education and strategies in helping student success. A great start on the changes underway in higher education is Jon McGee’s [5] *Breakpoint: The Changing Marketplace for Higher Education*. To understand the new demographics of students, two good sources are Lisa M. Nunn’s [9] *33 Simple Strategies for Faculty: A Week-by-Week Resource for Teaching First-Year and First-Generation Students* and Kathleen Cushman’s [21] *First in the Family: Advice about College from First-Generation Students*.

With challenges comes opportunity. An education offers a great opportunity for FGUS. Political science faculty can be at the forefront of accommodating the new demographic changes among our students. Pope [22] finds that student engagement is the best predictor of student success in college, which includes students having meaningful interactions with faculty. It will require resolve and vigilance by faculty to engage students of differing backgrounds. More challenging for faculty will be the cultural shifts that take place to ensure that FGUS succeed in college (e.g., balancing teaching with research). The challenge is well worth it if it means more successful students, given the distinct benefits of a college education.

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Section 2

Accreditation and Regulation

Institutional Accreditation and the Professionalisation of Teaching in the HE Sector

Lucy Spowart and Rebecca Turner

Abstract

Institutional accreditation is an integral part of moves to professionalise teaching and learning in higher education (HE). Despite this growing trend, there is a paucity of literature which examines the benefits and challenges of institutional accreditation. In this chapter we draw on survey data collected in 2020 from 55 HE institutions globally which are accredited by Advance HE to award Fellowships. These teaching Fellowships are aligned to the UK Professional Standards Framework for Teaching and Supporting Learning (UKPSF). Findings show that institutional accreditation supports the career development of teaching-focused academics and impacts on teaching and learning in a number of ways. These impacts include providing an external benchmark, raising the profile and quality of teaching and encouraging teaching-related professional development, including engagement with scholarship in teaching and learning. Accreditation was also found to align with neoliberal agendas of quality, league tables and marketization. The perennial issue of how to evaluate the impact on student learning is something respondents continue to grapple with. Finally, these data demonstrate there is a clear need to develop a more systematic and embedded approach to evaluation that captures the outcomes of teaching-related professional development.

Keywords: Accreditation, Benchmarking, Professionalisation of teaching, Professional standards framework (PSF), Impact evaluation, HEA Fellowships, Career development

1. Introduction

Accreditation, broadly speaking, involves a process of evaluation and judgement by an external body which, if successful, enables an institution, or a programme, or short course within an institution, to be recognised as meeting a pre-determined standard [1]. This recognition is often used in marketing materials and serves to inform potential ‘customers’ that what is on offer meets, or perhaps even exceeds (where accreditation is not the norm), industry quality standards. Despite accreditation having a long history in many professions [2], the accreditation of teaching in Higher Education (HE) is a relatively recent phenomenon emerging as part of wider moves to professionalise teaching and learning in the sector [3, 4]. This ‘professionalisation’ plays out in various ways including becoming qualified (and/or accredited) as a teacher and engaging in pedagogic research and scholarship [5].

Internationally, there is a substantial evidence base relating to the impact of teacher development programmes at the level of individuals [2, 6–12]. Within this global interest in HE teaching and learning, the UK has made a significant contribution in leading good practice, research and agenda-setting, alongside strong and often collaborative contributions from countries such as Australia and New Zealand. This leading role has included the UK, through the former Higher Education Academy¹ and the UK Professional Standards Framework, driving what is now a global agenda to professionalise HE practice in teaching and learning [13].

In this chapter we draw on survey data collected from a sample of HE institutions globally that are accredited by Advance HE (a UK-based, member-led, sector-owned charity) to award teaching fellowships. These fellowships, frequently known as HEA fellowships (after the former Higher Education Academy), are aligned to the UK Professional Standards Framework for Teaching and Supporting Learning (UKPSF). The stated goals of the UKPSF, as articulated on the Advance HE website [14] include supporting ‘the design and delivery of initial and continuing education development programmes’, and ‘demonstrating professionalism to stakeholders’. The UKPSF can also be used to support senior staff in developing policies and promoting a strong culture of excellence in teaching and learning support via the development of processes to reward and recognise teaching. The recognition afforded through the UKPSF is intended to promote and support career paths in teaching and learning [14, 15]. However, the extent to which this ambition has been realised is debated [5, 15]. Equally though the growth in accredited provision that has formalised professional development for new, and experienced staff, has been documented, both in the UK and beyond [13, 16], and evidenced through the widespread use of Advance HE accreditation services. The impact of these developments has been contested by some [5, 17] raising concerns over local resistance, and conflict between the long-term goals of professional development and institutional priorities to raise the profile of teaching. This project therefore aimed to establish the impact of operating accredited programmes and courses on:

- Teaching and learning across the institution;
- Institutional policies and strategies relating to teaching and learning;
- Student outcomes and experience.

Here we are specifically interested in exploring the rationale behind HE providers becoming accredited by Advance HE and the impact this has on the quality of teaching and learning. We also sought to establish whether there is any clear evidence of the impact of accreditation on the student experience.

Understanding the impact of any form of teacher development on the end-user, the student, is notoriously fraught with difficulty [18, 19]. Attempts to capture potential impacts have tended to be indirect, or one dimensional, i.e. focusing on satisfaction as a measure of the complexity of the student experience [20]. Despite this, the agenda for ensuring HE teachers are appropriately qualified remains, with nations proposing ambitious recommendations to address this [2, 21, 22] and the priority for the professionalisation of HE practice remaining a priority for many countries [13]. This reflects the documented benefits students gain from studying within an environment where lecturers have engaged in initial, or on-going teaching-related professional development [18]. Since gaining institutional accreditation

¹ The Higher Education Academy became part of Advance HE, a new, sector-owned charity in 2018, with the aim of addressing system inequalities and advancing education.

is not required in HE, and comes at a time and financial cost, alignment of teacher training and ongoing professional development to an accreditation framework, such as the UKPSF, appears to be important to institutions in demonstrating a commitment to the professionalisation of HE teachers.

1.1 Historical context

Institutional accreditation via Advance HE is part of a broader agenda to raise the status of teaching and learning, and to support teaching-focused academics to be as well qualified and rewarded as their research-focused colleagues [16]. Concerns over teaching quality, preparedness for the workplace, the lower status of teaching compared to research and a lack of recognition drove this agenda from the late 1990s [23]. More recently, increasing competition in the sector, including global competition for students, has led to universities striving to improve in all areas of their business [24], including teaching. Consequently, we do not regard accreditation as a neutral phenomenon, but part of the wider quality improvement discourse surrounding modern-day HE. For some, accreditation is treated with suspicion and regarded as highly political, imposed and prescriptive [25, 26]. It is also perceived to be embedded in neoliberalism with its focus on benchmarks, audits and performativity [27]. Furthermore, the increasing expectation placed on university teachers to gain professional recognition and/or a teaching qualification has likewise been cited as an example of the credentialisation of university teaching [28].

In the UK, the Staff and Educational Development Association (SEDA) introduced an accreditation framework in the early 1990's [29]. This framework underpinned many of the early teaching courses in the UK designed to introduce new lecturers to teaching and learning principles and practices. The Dearing Report followed in 1997 and was highly influential in driving the agenda to professionalise HE teaching. By 2006 the UKPSF for accrediting the experience, knowledge and values of university teaching staff, and others who support learners in university settings, was introduced. Subsequently revised in 2011, the framework provides a general description of the role carried out by those that teach and/or support learning in a HE setting. Whilst the framework was developed in the UK, there is evidence that it has been highly influential both in the UK and beyond [13, 30, 31]. One of the benefits of the framework is that it is transferable internationally, providing a clear structure through which educators can conceptualise their practice. Thus it provides a globally recognised benchmark for accrediting the professional development of university staff engaged in teaching and/or supporting learning [31].

Advance HE oversees the UKPSF and is the accrediting body which provides permission (or not) to operate teaching and learning related continual professional development (CPD) or taught, credit bearing courses aligned to the UKPSF. At the time of the research 172 HE institutions were accredited against the UKPSF, with 23 situated outside the UK. Whilst the majority of member institutions are within English speaking countries (UK, Australia, New Zealand), there are increasing moves to develop a more global approach to institutional accreditation with new member institutions situated in Africa, Thailand and Bahrain for example.

To achieve institutional accreditation a university, or other HE provider, must first be a Full Member of Advance HE. Advance HE then assesses an institutions commitment to the UKPSF by considering the role of the UKPSF in framing institutional policies and strategies and rewarding and recognising staff who teach and/or support learners. Advance HE is concerned that accredited provision is supported by adequate resource, and applicants must demonstrate how resources are deployed and sustained [32]. They also need to evidence that robust quality assurance processes are in place to ensure judgements made about teachers against

the criteria are valid and reliable. If successful, institutional accreditation permits the institution to deliver a taught course (such as a postgraduate teaching award) or a CPD Scheme enabling participants to gain 'recognised status' as HEA Fellows at one of four categories: Associate Fellowship; Fellowship; Senior Fellowship; and Principal Fellowship, aligned to the descriptors of the UKPSF. To ensure currency and maintain the standards as prescribed by Advance HE, reaccreditation takes place every 4 years [32].

Despite the increasing prevalence of Advance HE accreditation across the sector in recent years, research which examines its impact remains limited [33]. In the UK this has been reflected in a recent emphasis on institutionally-focused evaluation studies examining the impact on individuals of achieving HEA Fellowship, for example, [3, 16, 34–37]. With some notable exceptions [13, 38, 39], this latter work has so far been largely UK-centric [33], and the wider institutional impacts of Advance HE accreditation have not previously been considered in any large-scale, cross-institutional studies. A recent comparative study of two UK institutions [17] found no correlation between the rising number of HEA Fellowships and student's perceptions of teaching quality as revealed by National Student Survey scores. Thus, the developmental potential of some accredited routes to teacher development have been brought into question.

To address the gap in the research, and as part of their own quality assurance processes, Advance HE commissioned an independent research project. We report here on data collected from one of the work packages associated with part of this larger project to understand the impact of Advance HE accreditation at an institutional level. Full details of the wider study and the overarching outcomes are available online [31].

2. Method

This research explores the impact of Advance HE accreditation on institutions. To achieve this, we designed a comprehensive online survey as the primary method of data collection for this stage of the project. In related work (e.g. HEA Evaluation toolkit) we had previously used online surveys to successfully reach a dispersed sample population in the UK [40]. We echo the benefits associated with online surveys reported by other researchers [41, 42]. These researchers cite the potential of online surveys to provide a so-called 'wide-angle lens' on a topics of interest, noting the ability of online surveys to capture a range of perspectives and experiences. In particular, both authors cite the potential to capture 'un-heard' or underrepresented voices in qualitative research. Practically, online surveys can provide rapid, easy and affordable access to geographically dispersed populations [42]. As this study was international in scope with a short time-frame during which data collection could be undertaken, online surveys were deemed most useful in providing insights into the diverse range of institutions that engage with Advance HE accreditation, whilst also promoting inclusivity and accessibility of the research.

We developed a draft online survey which explored the following topics: institutional rationale for becoming accredited by Advance HE; perceived benefits; challenges; and impacts of accreditation. We also asked respondents to report on the strategic uses and engagement with accreditation. The survey was designed to be completed by those individuals in institutions who had responsibility for Advance HE accreditation; individuals in roles such as Academic / Educational Development. These individuals usually have responsibility for Advance HE accredited provision, as well as a lead role in obtaining and renewing accreditation. Therefore, we felt that they should be well positioned to provide an institutional-level perspective on

accreditation. The survey was piloted with 10 respondents familiar with Advance HE accreditation drawn from four countries. This allowed us to review the ordering, clarity and accessibility of the survey, with minor revisions made to the final version. The final survey included a mix of closed and open questions; the closed questions, which included multiple choice and likert-scale questions, were used to capture data relating to motivations, challenges, impacts and uses of accreditation. We used open questions to capture more detailed responses, which across a whole data-set could then build up to provide a rich and nuanced picture of the impacts of accreditation [42]. We used JISC Online Surveys to host the final survey.

Initially, the survey was distributed by Advance HE to the named institutional contacts for their accredited provision. Advance HE were the gatekeepers of this information, and due to issues relating to data protection, the names and details of these contacts could not be shared. However, at the time the survey was distributed the COVID 19 pandemic took hold. There were concerns about potential impacts this may have on response rates. We mitigated this by cascading the survey link to Advance HE's Programme Leader's online space 'Advance HE Connect'. The survey was open for 23 days and at the time the survey closed there were 55 responses (42 UK-based institutions and 13 from outside of the UK). This represented a response rate of 27% of all UK-based Advance HE accredited institutions and 50% of all non-UK based accredited institutions. Given the circumstances under which the survey took place, in that many institutions were focusing on responding to a global pandemic, we identified this as a good response rate, comparable to that obtained in related work [43], and reflects the level of interest and perceived relevance of this research to the community. We then used descriptive statistics to review and analyse the response to the closed questions. The data obtained from the open responses were collated and analysed thematically.

3. Findings

3.1 Why does advance HE accreditation matter?

It was immediately apparent that Advance HE accreditation matters greatly. Not least because time had been dedicated during the global pandemic, whilst institutions were hastily transitioning to Emergency Remote Teaching [44], to respond in substantial detail to the survey. Whilst a diverse range of answers were provided, three reasons behind institutional accreditation were most frequently cited by a quarter of respondents in each case. Before we consider each of these in turn, it is noteworthy that only two respondents explicitly mentioned students in their rationale for institutional accreditation, a point we return to later.

3.1.1 External benchmarking

Respondents frequently drew on discourses of marketization [45] and quality improvement in their responses with 'external benchmarking' most frequently cited as the rationale for Advance HE accreditation. HEA Fellowship was regarded as having a particular '*currency in the sector*' and was especially sought after by the non-UK institutions who regarded it as a means of acquiring '*Global recognition*', both at an institutional and individual level. As one respondent put it: '*We know and accept that UK has the high quality of educational system*' and '*We value the UKPSF*'. Several respondents also valued the independent nature of the quality assurance.

Benchmarking is defined in [46] as "the process of self-evaluation and self-improvement through the systematic and collaborative comparison of practice and performance with similar organisations in order to identify strengths and

weaknesses...and to set new targets to improve performance.” The process is evidence based, and by comparing to organisations similar to themselves, institutions seek to enhance their own practices, ultimately seeking a competitive advantage. As universities around the globe compete to attract staff and students, an external reference point involving benchmarking across borders has taken on increasing significance.

The UKPSF was cited as being a ‘robust pedagogical tool’ and the associated Fellowships were regarded as having a ‘real currency in the sector’. One institution from an international institution in the Global South noted:

Already we see the UKPSF being embedded institutionally as a benchmark. This year for the first time engagement in [The university’s accredited CPD scheme] and gaining HEA fellowships has been set as one of the conditions for the most prestigious university-wide award on Teaching that is given out at the annual convocation ceremony. The “Award of Excellence in Teaching and Teaching Leadership” specifies the criteria that applicants must have engaged in applied learning from CPD in their teaching practice, including within [the accredited CPD scheme] and have benchmarked their teaching practice internationally.

Gaining accreditation also ensured that staff had access to a ‘community of practice’ that extended well beyond their own institution. The ‘sharing of experiences and resources’ was deemed particularly important for smaller institutions and those from outside the UK. By virtue of being Members of Advance HE institutions have access to services and resources that provide extended networking opportunities. For example, Advance HE facilitates ‘Accredited Programme Leaders Forums’ that encourage cross-institutional networking opportunities. Similarly, the online platform ‘Advance HE Connect’ provides accessible discussion opportunities and current information regardless of geography or time-zone.

In relation to the concept of benchmarking, several respondents discussed the setting of ‘targets’ or numbers of staff to achieve Fellowship via the institution’s accredited provision. 43% of survey respondents reported institutional targets were set, 51% did not have targets and 6% were either unknown or missing. Several institutions had ‘lofty’ key performance indicators of over 80% of its teaching staff to achieve Fellowship within the next year or two. For some, this was explicitly embedded within the institution’s probation policy which served as a mechanism to ensure compliance, aligning to discourses of managerialism and accountability now infiltrating teaching enhancement units in HE [4]. New appointments with teaching responsibilities were therefore required to achieve Fellowship within a specified time period. As one respondent articulated:

The institution values the ability to award Fellowships and aims to increase its numbers. It is held important that the PGCert provides as much in terms of qualifications and status as possible, and aligns with sector practice to professionalise teaching.

Although an increasing feature of contemporary HE [47], target setting is a contentious area. In relation to teaching credentials targets are most frequently monitored and managed via probationary policies designed to ensure requirements are written into appointment letters. This is certainly not the intention of the accrediting body, but a consequence of the managerialist demands and ‘audit culture’ of HE [4, 48]. In this survey the polarised views surrounding target setting were also evident.

We have always resisted setting targets, and annually defend this position on the grounds of prioritising educational enhancement, not metric chasing.

Implicit within the above quotation is the recognition that gaining Fellowship, on its own, does not necessarily lead to enhancement. As Ball [49] argues a permanent measurement culture requires people to perform in certain material ways – in this case, gaining recognition for their teaching via Fellowship – these ‘performances’, are rooted in ‘institutional self-interest’ (p.216). As an illustration, when asked ‘What motivated your institution to apply for accreditation?’ one respondent simply wrote: *‘to ensure we returned a good percentage of staff in the HESA Teaching Qualifications Return.’* Much measurement, like the Higher Education Statistics Agency (HESA) data referred to here, is subsequently used in league tables and plays a role in determining an institution’s reputation for teaching. In an increasingly competitive market place this matters greatly to institutions. Indeed, this is a sentiment echoed by participants in related studies centred on the evaluation of accredited CPD schemes [50, 51]. Awareness of the external value and role in league tables was often cited when respondents considered the potential institutional benefits of gaining accreditation. This illustrates the extent to which the rhetoric of performance has infiltrated individual practice.

3.1.2 Enhancing teaching quality

Connected to the concept of benchmarking, the enhancement of teaching quality was mentioned in various ways as a key motivator behind institutional accreditation, including: *‘quality enhancement’, ‘raising standards’, ‘developing a culture of teaching’* and *‘assuring high quality education’*. Respondents frequently revealed a direct connection with the UKPSF and the strategic direction of the institution, as articulated in policy documents such as ‘Teaching and learning strategies’. Inherent here is the assumption that engagement in accredited provision *does* manifest in teaching quality enhancement. As we, and others, have argued elsewhere [5, 50, 51] this is a somewhat problematic assumption to make, particularly since accredited CPD schemes (rather than taught courses) rely on applicants reflecting back on previous teaching experiences (usually in writing), instead of considering how improvements to future teaching activities might be implemented. Nonetheless, a quarter of survey respondents mentioned improving quality as a key driver for accreditation, and several of these were positioned in relation to research as illustrated here:

There is a desire to provide staff with a robust route to professional recognition, reinforcing the importance of assuring high quality student education alongside high quality research.

Accredited in-house CPD schemes were also mentioned as being accessible and inclusive. A key growth area, similarly reported in the literature [5, 52], is the creation of opportunities for engagement for part-time and non-academic staff (e.g. librarians, learning technologists, technicians, graduate teaching assistants; and research students) as the following quotation demonstrates:

For the CPD scheme, this enables our experienced staff with a wide range of associate lecturers and industry linked professionals with different career paths, to also complete Fellowships (an internal accredited scheme can do this, and external application would be more expensive and have far less uptake).

In an increasingly commercially-driven HE market place we also see here the concept of ‘value for money’ tacit in this excerpt. Without institutional accreditation, for staff to gain Fellowship at Descriptor 2 (FHEA) via a direct entry

application to Advance HE currently costs £220 per applicant for a subscribing institution or £440 per applicant for a non-subscribing institution [53]. At Senior Fellow (SFHEA) level the costs increase to £330 and £660 respectively. Conversely for institutions with accredited provision, there is no cost beyond the annual subscription fees. For large institutions then, with a strategic drive towards growing the number of staff with recognised teaching status, it is easy to see why accredited provision delivered in-house is an appealing option. In fact, one could argue, institutions have limited choice if they are to 'compete' in the teaching league tables alongside similar institutions. Perhaps this is one reason why, in the UK, accredited provision is so pervasive.

3.1.3 Supporting career development

Alongside the neoliberal discourses of quality improvement and target setting, a quarter of respondents highlighted the importance of Advance HE accreditation in supporting the career development of those primarily engaged in educational activities and demonstrating individual as well as institutional credibility. This was particularly significant for teaching-focused institutions: *As a teaching-focused institution it is important that we provide opportunities for staff to develop their teaching expertise*.

In academic circles, there have long been calls for teaching to be recognised on an equal footing to research. In the UK, The Government White Paper 'Students at the Heart of the System' [54] highlighted the need for institutions to redress such imbalances and properly reward and recognise teaching. Despite progress in terms of policy development, promotion and tenure are still proving to be elusive for academics focused on teaching [55, 56] signalling a clear gap between policy and practice.

Reflective of the professionalisation of HE teaching, survey respondents here referred to the achievement of Fellowship as providing an *enhanced professional reputation* and a *professional as well as academic award*. Institutions outside of the UK also noted the *transferable qualities* of the professional accreditation and regarded it as a *'portable asset'* for teaching staff. As one respondent described: *It give graduates an internationally recognised certification to support their career development*. Respondents also noted the *importance of having a process for recognition and reward*. Similar to the findings of van der Sluis [51], our research illustrated the importance of having sector standards and a professional body to champion teaching and learning in a sector historically dominated by research. 39% of respondents confirmed that Fellowship or the UKPSF was explicitly mentioned in their institution's promotion criteria, with a further 39% reporting that it was mentioned under some circumstances.

The Fellowship scheme was seen to be a motivator to encourage engagement with professional learning. The scheme is part of a strategic initiative to transform teaching and learning. The transformation required increased engagement with professional learning to build capacity. Engagement with professional learning ultimately culminates in Fellowship which is a concrete measure recognized in annual appraisal and promotion processes, hence the motivator to engage with professional learning and capacity building.

3.2 How does advance HE accreditation impact on teaching and learning?

When asked to determine the level of impact institutional accreditation has on teaching and learning, via a 5-point Likert scale, 95% responded positively. Specifically, respondents reported positive impacts on: the quality of learning

activities (94.6%); the championing of teaching and learning practice and innovation (94.6%); the establishment of internal teaching and learning networks (89.2%); the design of teaching (78.5%); and the quality of assessment (76.8%). Impacts were reported as significant at the individual level but harder to articulate at an institutional level. Despite the very positive responses derived from the Likert scale questions regarding teaching and learning practices, of the 20 respondents who elected to add a qualitative commentary, 8 noted, in various ways, the challenges of correlating accreditation directly with teaching and learning practices.

It's difficult to identify how accreditation can have had a specific impact on some of these areas - I get the feeling that in technology-enhanced learning for example, developments were happening among the keen people anyway.

Advance HE accreditation is aligned with institutional (and School priorities and plans) so it is hard to disentangle impact. My 'gut feeling' is a positive impact, but the scale of impact depends on institutional actions and commitments (which are considerable)

There is a difference between valuing educators and Advance HE accreditation - while at the moment accreditation is seen as one way of demonstrating the value, I don't think this is the only way, by any means, of achieving that valuing, so I am hesitant about some of my answers here. This is a much more nuanced situation and, while I'm supportive of Fellowship (very much), I'm also cognisant of the fact that there are other ways to measure excellence in education, and that measuring the impact of this approach is a much more subtle thing than simply saying 'it works because we think it works'. We would need to be able to trace a direct line between Fellowship and, say, NSS scores in order to be able to say categorically that the impact has been positive; all I can really say comfortably at this point is that encouraging people to professionalise as educators and to recognise that via Fellowship might create an atmosphere in which Fellowship has an impact.

These responses illuminate the perennial issue of measuring the impact of educational initiatives [57, 58]. Almost 34% of respondents said that they were undertaking evaluation work explicitly to measure the impact of institutional accreditation. We do not know the details of this evaluation work, but several respondents noted the difficulties of disentangling impact when there were various initiatives operating simultaneously, all aimed at driving up the quality of teaching and learning. 57% of survey respondents were not undertaking any evaluation work. Educational developers play a key role here, as does the institutional culture and overarching support for teaching and learning initiatives. Ironically, whilst benchmarking with other institutions was regarded as an important motivation for institutional accreditation, respondents did not appear to have developed or implemented teaching benchmarks through which they could evaluate their own development against. That said, in our study, whilst respondents were aware of the compounding influences of multiple initiatives all aimed at driving up teaching quality, there was still a very strong perception that accreditation helped do this. One respondent described the impact like this:

In reality [accreditation] provides a gateway for the academic development team to build relationships, build confidence and self-efficacy in staff to make significant changes to teaching, learning and assessment practices. It has been truly transformational in getting staff to believe in themselves and to realise they do great work and they can influence and change things.

Accredited provision was regarded as the 'golden thread' that connected various institutional initiatives to enhance teaching. These initiatives included: building capacity by developing a pool of mentors and assessors (91%); raising the profile of teaching and learning (87.5%); providing leadership opportunities (73%); and increasing engagement with teaching-related scholarship activities (57%).

3.3 Advance HE accreditation and student engagement with teaching and learning

Respondents were asked 4 key questions relating to the perceived impact of Advance HE accreditation on student engagement with teaching and learning. These 4 questions related to: student satisfaction; student achievement; student interactions with staff and student interactions with each other. Over 46% of respondents felt that accreditation had a positive impact on student satisfaction. It was notable however that 37.5% of respondents were 'unsure' and the qualitative commentary again emphasised the challenges of making causal links between institutional accreditation and the impact on student engagement, satisfaction and achievement. Of 21 qualitative comments, 18 reported difficulties measuring any impact on the end-users. In contrast to the impact on teachers and teaching and learning practices, there was limited evidence upon which respondents could draw any concrete conclusions. In fact, there was a sense that the impact on students was: 'impossible' to ascertain; 'the biggest unknown'; 'difficult to pinpoint'; and 'based more on intuition'.

This impact [on students] would be very indirect and whilst from other impacts I would hope it is positive I have no clear evidence at this time to make such claims.

To be confident that institutional accreditation aligned to the UKPSF leads to positive impacts, there needs to be robust and rigorous measures in place to evidence this. Research has recently begun to emerge that attempts to address this point. In [51], for example, the author sets out to establish whether there was any relationship between National Student Survey scores in the UK and the rise in the number of HEA Fellowships. Using data over a six year period (2012–2018) he concluded that 'the growth in HEA Fellowships has no significant positive or negative association ($p > 0.05$) with students' perceived quality of teaching and academic support, and their overall satisfaction with the course.' ([51], p. 4).

4. Conclusion

In this chapter, we have drawn on data collected from an international survey targeted at institutions which provide teaching-related CPD aligned to the UKPSF and accredited by Advance HE. In undertaking this survey, we addressed the noteworthy gap in the published literature around the institutional impacts of teaching-related CPD. As we considered in the framing of this chapter, extant work centers on the experiences of those seeking individual recognition through engagement with accredited CPD Schemes [5, 33, 59, 60]. Wider impacts, though often implied, have until now, not yet been examined systematically. The work presented here was part of a wider independent study to address this gap, and provide contemporary insights to inform institutions in maximising the benefits of providing accredited CPD.

The data collected via the online survey demonstrates that, for those responsible for teaching and learning within the 55 member institutions, institutional

accreditation and the resulting ability to confer Fellowships is significant. In particular, respondents noted how accreditation was raising the profile of teaching and learning and enhancing teaching quality. Accreditation was also found to align with the neoliberal agendas of quality, league tables and marketization, which has become a dominant discourse in the sector. In the UK in particular, institutions being able to demonstrate the number of staff with a teaching qualification has become a proxy for teaching quality and signals a commitment to teaching and learning that aligns with the rhetoric of policymakers [17]. Though the narrative of league tables and marketisation was perhaps not as prominent for international respondents, external benchmarking was highly important. It appears, therefore, that institutional accreditation has become synonymous with signalling a commitment to high quality teaching and learning, supported by the development of architecture such as promotion pathways and strategic guidance that can further serve to raise the status of teaching and learning. To gain accreditation institutions have to possess such architecture, and to maintain this accreditation, they need to evidence how processes of reward, recognition and teaching development continue to play a role in the institution and the enhancement of teaching and the student experience.

It is the impact of accreditation on the student experience which is the ‘thorny issue’ institutions, and also the accrediting body Advance HE, continue to grapple with. As we highlight above, the link between accreditation and student experience is, at best, tenuous. Implicitly students are at the heart of the UKPSF, and it is the contribution individuals make to student learning through the teaching, and support they provide, that is recognised through accredited provision. A notable outcome of the survey was a gap in practice to evaluate the impact of accredited provision on institutions and students. Given that accountability is so prevalent across the sector [61], with measures of student satisfaction, retention success and employability being used to assess the success and impact of institutions globally, it is surprising that practice to evaluate the impact of accredited provision has not become more widespread. Advance HE does not currently require institutions to adopt a systematic approach to this. However, given that Advance HE is a membership organisation, with associated costs, we can speculate that budget holders within institutions are likely to become increasingly concerned about value for money and evidencing impact.

There is a need to develop a more systematic and embedded approach to evaluation that captures hard and soft outcomes of teaching related-CPD across a number of different levels. In 2015 we proposed a longitudinal approach to evaluation which was embedded from the planning stages to benchmark provision, and revisited throughout, to foster a systematic and structured approach [58]. We proposed different methods of measuring impact, so that the diversity of outcomes, including those for students, could be captured at relevant moments. Since this work concluded ‘students as partners’ has become an increasingly prominent movement, with examples of students becoming involved, through partnership work, in activities such as curriculum and resource design, pedagogic innovation and research [62, 63]. Bringing together evaluation and students could be an avenue through which institutions could address these clear gaps.

Active student engagement in academic development and curriculum innovation work has challenged the neoliberal discourse of students as consumers, instead positioning them as equal partners in these co-creation activities [64]. Following a students as partners approach, students could become involved in the design, development and implementation of activities to evaluate teaching-related CPD activities, specifically those linked to institutional accreditation, to embed students more explicitly in the accreditation process. Actively involving students

in the evaluation of accreditation would open up spaces for them to contribute to discussions around teaching development as well as enhance student awareness of the UKPSF and accreditation. This could serve, in the long term, to demystify the practice of lecturers' development for the benefits of all concerned – students, institutions and Advance HE.

A final theme we want to explore here is the future of accreditation. Advance HE accreditation serves to confirm institutions meet a certain standard, have the resources to support meaningful lecturer development and have the strategies and processes to reward and recognise good teaching [32]. Membership to an international community of practice, opportunities to share experience and gain recognition via the award of Fellowships were among the most frequently cited benefits of accreditation. However, though the number of institutions accredited by Advance HE is growing, to maintain relevance with disciplinary-focused lecturers, those working in academic development need to ensure that engagement with accredited provision continues to be developmental. Whilst our survey highlights multiple benefits at both an individual and institutional level, for some individuals, the experience of engaging with accredited CPD Schemes to gain recognition of existing experience, means that the developmental potential is not fully realised [33, 51].

The COVID-19 Pandemic brought into sharp focus the potential for Advance HE to provide easy access to rapid and relevant CPD. Increasingly universities are being positioned to respond to what some refer to as 'wicked problems' i.e. complex societal challenges that lack clarity in their aims and solutions [65]. Climate change, sustainability, poverty, decolonisation are all contemporary problems that universities are being called upon to address, however, staff and institutions need to be supported to develop capacity and change. Advance HE is already leading conversations and developing practice around Equality, Diversity and Inclusion, therefore future accreditation practice could be expanded to promote engagement with these contemporary agendas embedding them holistically in accreditation processes.

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Conflict of interest

The authors declare no conflict of interest.

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Public-Private Participation in Funding University Education in Sub-Saharan Africa: A Nigerian Case-Study for Sustainable Development

Lawrence Jones-Esan

Abstract

The developing countries in Africa still cannot withstand the pressure of the highly competitive global education market. Together with the large numbers of people who make a living in various innovative companies, these countries have solved key contemporary issues affecting global education. For this reason, it is necessary to actively respond to current technological innovation and educational challenges and to eliminate new technology graduates who can effectively interact with students through the responsive expansion of education and training. Expansion of education can produce effective expansion that promotes educational development, but due to budget constraints, most African governments cannot successfully and sustainably implement such educational programs. This is difficult. However, public-private partnership efforts provide a way out of this financial dilemma. The Sub-Saharan Africa initiative has achieved important educational objectives, such as: ensuring relevance for quality; secure funding for sustainability and establish resource mobilization partnerships and connections; and promote international cooperation. This discussion is relevant to the basic conditions for a successful public-private partnership with educational institutions and extended education and sheds light on the impact, lessons, and challenges. The public is increasingly concerned about the importance of higher education in the 21st century. This chapter explores some of the key functions of an innovative education system that supports the development of education in Nigeria and enhances people's ability to use information. Nigeria's education system re-emphasizes the importance of public and private universities, but the country does not have a sustainable education system and well-equipped educational institutions to support people's ability to use information, learning, education, and research activities.

Keywords: private-public participation, university funding process, sub-Saharan Africa, Nigerian educational system, sustainable development

1. Introduction

According to Oketch [1] general education in all societies, especially university education, is an indispensable tool for national economic growth and development

[1]. Experience has shown that if the citizens of a country are not well educated and adequately trained, rapid economic and social development cannot be guaranteed. As we all know, universities are companies that produce and distribute public goods, which is knowledge. The production of knowledge in universities has always been focused on teaching, learning, and research so that university education is considered a large investment that requires a large number of economic resources, so the funds allocated to college education are called long-term investments. There are huge benefits for people and society.

Tikly [2] explored the education is often seen as a transformative role in the sustainable development policy agenda and sustainable development goals of the African continent. However, these assumptions are based on an insufficient critique of the historical role of education in supporting unsustainable development. This article critiques the relationship between African education policy and sustainable development as Africa's position on non-colonial conditions, colonial heritage, and the modern globalization process. In educational policy, education plays a transformative role in sustainable development, and economic, cultural, and political changes must be considered fundamentally to facilitate social and environmental definitions. I insist that a more comprehensive process should be used.

Dibie and Dibie [3] explained the nature of public governance leadership, conflict, and economic development paralysis in selected countries in sub-Saharan Africa. He believes that ineffective political leadership and conflict will affect economic growth and poor social development. Servant leadership and democratic representation are ongoing development processes that can be achieved by participating in the development of the citizens themselves. The dynamics of development and participation at the national and grassroots level should include the exposure of government transformation agents to peace, participatory learning, and role models. This document uses data from primary and secondary sources to analyze issues such as political conflict, peace, leadership, and economic growth. The conceptual framework is structural conflict theory, negative and positive peace theory, frustration attack theory, and physiological theory is based on human desire theory and economic theory. The results of the study show that there is a negative correlation between authoritarian political leadership and economic growth in Africa. In many African countries, there is also a positive relationship between authoritarian political leadership and conflict. This article recommends internal and external mediation and peace education mechanisms to prevent conflicts from spreading or becoming avoidable crises. Therefore, the government, the private sector, and NGOs must work together to free citizens from the cultural and ethnic factors that enslaved them to restore justice and equality. Sub-Saharan African countries have established capacity-building work that can help promote changes in behavior, attitudes, peace, and humanistic paradigms, be peaceful and provide a basis for self-reliance and participation in sustainable development and it shared governance and inclusive democracy.

The United Nations Decade of Education for Sustainable Development is halfway through its milestone. However, the overall impact on educational thinking and practice remains unknown in most parts of the world. Although there are some efforts and initiatives to promote and identify the role of education in the global pursuit of sustainable development, many of these efforts are not yet fully understood and are unknown in most communities around the world. In most of Africa, they can say that they have never seen or heard of a 10-year education for sustainable development. Most institutions, including schools, governments, businesses, civil society, and individuals, do not yet understand or understand the role of education in the pursuit of sustainable development. It argues that the decade has received all the attention in some circles, but this issue has been neglected in

most of Africa's education policies and practices. It calls for more attention to the role of education in sustainable development in Africa and revisits what sustainable development means to Africans elsewhere and in culture. Using this as a starting point, he demanded that he explore more meaningful education and philosophy to address the unique challenges of Africa [4].

2. Literature review

Rose et al. [5] revealed outlines the main characteristics of educational research created by scholars in sub-Saharan Africa as outlined in the African Education Research Database. The database is compiled by at least one researcher in the region, classifies social science research that affects education policies and practices in sub-Saharan Africa, and publishes them in well-known journals. By specifically cataloging research conducted by researchers in sub-Saharan Africa, the African Education Research Database is a unique resource for education development research and policy in the region.

According to Assongu et al. [6] Information and communication technology department promoted inclusive education in 42 sub-Saharan African countries between 2004 and 2014. The relationship between inequality, information and communication technologies (ICT), and inclusive human education were investigated. The empirical evidence is based on the generalized law of moments. The following findings have been determined. First, the Gini coefficient and the Atkinson index are 0.400 and 0.625, respectively, which are the positive impact of Internet penetration on inclusive education and exceed the income inequality threshold for inclusive education. Second, when the Gini coefficient and the Atkinson Palm index are 0.574, 0.676, and 9,000, respectively, they are the income inequality threshold, if they are exceeded; they do not have a positive impact on inclusive band subscription education and fixed width. As a key policy implication, ICT cannot exceed the threshold of inequality established to promote inclusive education in the sample countries. Other impacts will be discussed under the Sustainable Development Goals (SDGs) [6].

This paper combines a large-scale literature review of educational publications by researchers from sub-Saharan Africa and a description of researchers' priorities and practices. According to the International Policy Statement (Sustainable Development Goals in Education and Agenda 2063 of the African Union), the 48 countries of the region are reviewing their research topics, key models, funding, and analysis of co-citations to qualify for increased academic participation. Furthermore, the evidence presented in this article challenges claims of excellence in research projects in North Sub-Saharan Africa [7].

This study confirms whether telecommunications infrastructure can promote economic growth in countries with good educational opportunities compared to countries with few educational opportunities. Using a panel of 45 countries in sub-Saharan Africa from 1993 to 2015, the estimated results of the two-step fixed-effects operation and the use of effective methods for the time being a widespread show that in countries with good educational opportunities, the Internet is promoting economic growth. While mobile phone screens do not do this. These results indicate that education is considered very important for the Internet, but it seems that it has nothing to do with the use of mobile phones [8].

Banya and Elu [9] studied World Bank and other contributor agency's policy changes in the direction of financing of higher education in Sub-Saharan Africa. It concludes that policy vicissitudes have unfavorably affected these institutions. The suggestion is that the exclusive background of each state plays a role in higher education financial policy structure and completion.

The purpose of this paper is to analyze the background of Nigeria's education laws and policies and the implementation of youth education. The main focus is on university admissions policies and legislation, guiding case studies and the impact of education policies on young people's education. This work was first published in the Ohio Education Law Yearbook in 2018. The author of this work has always been passionate about youth education in Nigeria, but it is currently declining due to the strictness of JAMB admissions. I am looking for a solution. The study uses qualitative and quantitative methods to solicit the opinion of educators and a small number of young people affected by the system. The qualitative approach provides information on the history of education policies introduced by the UK and the US in Africa but has not met the needs and expectations of the Nigerian community in the region [10]. Therefore, the Nigerian government decided to formulate its national policy to meet the educational needs of indigenous and Nigerian peoples. Through the use of quantitative and qualitative methods, we can analyze and draw conclusions that can improve the current policies implemented to streamline the Nigerian educational system. The fact that many young Nigerians study abroad shows that there is a high demand for education, which is why the government has taken steps to make it easier for young people to receive a university education [11].

Nigerian policy is inconsistent with the promotion of youth entrepreneurship in the state of Anambra, which will be a guide to becoming self-employed. Most young adults in Anambra lack information about the characteristics of businesses to become self-employed. The problems facing Anambra Province as a result of youth unemployment include rising crime rates, substance abuse, kidnapping, and suicide rates. In line with human capital theory, the purpose of this case study was to examine the entrepreneurial strategies required for young Anambra State youth to become self-employed after graduating from university. Twenty young entrepreneurs participated in individual interviews, and 5 participated in focus groups, with 5 policymakers participating in other individual interviews. The data were coded and analyzed using Yin's five-step procedure, repeating the entire process of compiling, assembling, analyzing, disassembling, and displaying the theme three times. New topics were instruction, vocational training, and temporary programs. These results show that adolescents who participate in these programs (Mentorship, Vocational training, and Provisional) acquire entrepreneurial strategies over young people who do not and as a result run more profitable businesses. The researcher showed that. Positive social change implications are for college students with post-graduation hope, introducing vocational education to policymakers that can expand youth mentoring programs to increase employment rates and improve quality of life. Includes recommending the creation of an educational program for. University students can develop businesses that can lead to job creation and empower young entrepreneurs for the growth and development of the nation [12].

Sub-Saharan Africa's financial system has weak support for long-term physical sector development. The bank financing plans of these economies promoted non-competitive market mechanisms, resulting in high-interest margins. The study applied descriptive research improved causality technique to test the dynamic relationship between private participation in infrastructure, interest rate differentials, and the quality of institutional supervision in four sub-Saharan African economies: Kenya, Mauritius, South Africa, and Nigeria. The results prove that private participation in infrastructure can lead to lower spreads. The study recommends that public-private partnerships invest in project implementation at a lower marginal cost [13].

Social responsibility is a participatory process in which citizens engage to hold politicians, policymakers, and public officials accountable for the services they provide. At the 15th regular meeting of the African Union, African leaders

recognized the need for strong decentralized health programs that provide adaptive access to local politics, full social participation in the design and implementation of programs that connect civil society and private sector entities connected with Socio-cultural and administrative environment. Despite the growing use of social responsibility, the evidence on how it is being used in the healthcare sector is limited. The purpose of this systematic review was to characterize conditions that promote effective social responsibility in sub-Saharan Africa. We searched the electronic database for related papers published between 2000 and August 2017. Studies were eligible for inclusion if they were vetted English-language publications describing social responsibility interventions in sub-Saharan Africa. Qualitative and quantitative study designs were eligible. 14 related studies were included in the review. The findings show that effective social responsibility interventions include leveraging partnerships and building alliances. It depends on the situation. Integrate the collection and analysis of data and information. Leader clearly defined roles, standards, and responsibilities. Meaningful civic engagement, Barriers to health care systems, corruption, fears of retaliation, and limited funding appear to be major challenges for effective socially responsible interventions. Although the Global Obligation Standard is an important guide, the successful implementation of global health efforts depends on national circumstances [14].

3. Funding higher education in Nigeria

The fundamental basis of public financing for education is adequate knowledge and skills to improve the quality of life, and people acquire new technical knowledge to achieve reliable productivity and production capacity [15]. The development process must be capable. Nigerian public sector education funding is based on this concept. To perpetuate society, the new generation must be given the proper methods to acquire the knowledge accumulated by the previous generation. First, the University of Ibadan is the only university in the country and has provided sufficient funding in all aspects of education and research. The first-generation universities have established and maintained internationally recognized and respected standards, some of which have already received funding [16].

4. Effects of inadequate funding on tertiary institutions

Over the past 30 years, Nigerian higher education enrollment has increased and there has been a significant increase in enrollment opportunities through the establishment of more educational institutions. However, unfortunately, many indicators that can guarantee the quality of higher education are not taken into account when seeking to achieve the country's quantitative goals [17].

It has been observed that political factors, especially in the university system, are the main motivation behind many expansion policies [18]. Capital projects that met the actual expansion plan did not take off even if they were successful. Due to a lack of funds, I had to give up. According to Ogunode Niyi Jacob and Adah Samuel [19], due to the limited resources available, there is pressure to convene meetings, which leads to downward pressure on employee wages and deteriorating working conditions. Its effects include high-level "brain drain" among faculty and staff, relentless strikes, and resistance to student riots. All of these are aimed at affecting the quality of higher education in Nigeria. Ezeanolue et al. [20] assumes from a unique perspective that the secondary impact of reduced participation by higher education

institutions (Nigerian universities) can be explained by a variety of mechanisms, including:

- Reduced experiment/practical classes
- Restricted access
- Reduced participation in academic conferences,
- Reduced purchase of library books, chemical products, and experimental basic equipment
- New appointment freeze
- Virtual prohibition of research funding and reduction of research funding
- Also narrowed the scope of the strategy, losing the diversity of research and education in the central area
- The risk of closing the current undemanding and expensive research (unprofitable)
- down One step to losing autonomy mainly depends on external directors (financial support from a third party)
- Internal unification and administrative expansion
- The increased administrative burden due to costs and research and education
- Due to increased competition, between universities, coordination (harmony) decreases.

5. Possible sources of funding higher education in Nigeria

Financing higher education in Nigeria is a major national issue today [21]. The current political and social factors that have a great impact on the global economy require diversification of educational sources, mainly due to dependence on sales sources, and educational development [22] may be inhibited. However, he emphasized these things because there are options to support higher formations;

1. Discovery of government occupants
2. Commercial organizations occasionally use private donations in the form of sponsors for specific purposes
3. Tuition and fees
4. Gifts, sponsorships, and promotions
5. Acceptance of investments
6. Assistance (company, license, parent-student association)

7. Research questions and activities

8. Exercise community, etc.

6. Current funding modalities of public higher education in sub-Saharan Africa

Advantages and Limitations:

In general, there are three (3) major ways to fund public higher education institutions in sub-Saharan Africa.

1. Government funding modality

2. Donor support modality; and

3. Cost-sharing modality

6.1 Government funding modality

At least in the context of African higher education institutions, there are two general models for supporting higher education: the public model and the market-based model. All other types are organized in a continuum. The funding for the public model comes from the central government. This model allows individual agencies and government funds to be allocated according to the budget provided by the government and government policy priorities [23]. Higher education institutions can obtain: a) Unspecified amount of funds available for each institution, including lump-sum funds for research funds, education and institutional elements [23] and b) funds designated for specific purposes. These components vary by country.

Limitations of the government model:

- i. Public universities continue to rely on government funding because they cannot generate internal financial resources through income diversification.
- ii. The loss of institutional autonomy and academic freedom and the government's delay (sometimes insufficient) of the financial resources required for public universities and expenditures. Documentary evidence shows that there is a discrepancy between public university budget applications (approved by the council of each university) and government-approved budgets for public universities in Africa.

6.2 Donor support modality

Due to the lack of government investment in R&D, donor support is the main alternative funding model for R&D in most African public universities. As mentioned above, despite the African Union Commission's commitment to invest 1% of GDP in R&D activities, African governments invest less than 1% of GDP in R&D. The aid aspect of donors of financial aid for public higher education operates on a donor aid model, in which public universities in Africa are beneficiaries and funders of research and development activities are de facto donors, now called donors and politicians. "Partners for development". The advantage of the donor support

model is mainly to determine the research agenda of the donors (mainly northern universities and research institutions and universities) through unequal contacts and research cooperation, thus determining the research results or outcomes of the research of the African public universities. With its unique internationalization capabilities. A major limitation in donor support is the loss of institutional autonomy and ownership of the research agenda. Therefore, researchers in African public universities do not have research tasks or research results. The extension of the above restriction is that researchers from African public universities conduct self-censorship to obtain more research funds to buy portable cars, office air conditioners, overseas travel seminars, etc. It is important to improve the working conditions of researchers in public universities in Africa. It is usually related to improving research productivity, but it is funded by the African government [24].

6.3 Cost sharing modality

This form is mainly implemented using government-funded student loan programs (public and private university students) and income diversification activities, which do not work in many mature African countries. Student loan programs cannot operate effectively because loan recipients refuse to repay loans (due to low loan recovery rates), especially due to the lack of transparency in identifying poor students and politicizing loan programs. According to anecdotal evidence, African politicians often use higher education student loan programs to set their political and populist agendas. The main assumption of the African higher education cost-sharing policy (implemented there) is that higher education is private property, creating more historical income for graduates and their families. Therefore, the cost is borne by the beneficiary [25].

If implemented carefully, the cost-sharing method of financing public higher education has great potential and can bring a lot of additional revenue to public universities. Institutional autonomy and academic freedom can also be increased by increasing fiscal autonomy. The limitations of the current method of cost-sharing for higher education funds implemented in African universities are as follows:

- Universities tend to focus on income-generating activities that are considered profitable. The so-called commercialized evening academic courses, and
- Misunderstandings about the strong resistance of African countries (students and parents) to “free social services” and the cost-sharing of higher education. In many African countries implementing higher education exchange, resistance to higher education sharing is one of the main reasons for the low loan recovery rate.

7. Performance-based funding

In this funding model, the allocation of resources to universities is based on past performance of certain teaching, learning, and research outcomes. For example, as part of NPM (New Public Management), such as student enrollment, graduate enrollment and graduation, and the number of research papers published in indexed journals, the public higher education system provides funding based on the performance. Strengthen institutional responsibilities and improve efficiency. In general, it is a coordination tool that improves the transparency and efficiency of public spending by linking it with quantifiable indicators that improve the quality of higher education [26].

In sub-Saharan Africa, performance-based college funding is effective South Africa. Based on research evidence, this model compares South African public universities with other public universities in Africa it's relatively improved productivity.

8. Research performance-based funding system

The system focuses on the research results and productivity of public universities and public research institutions to improve the quantitative and qualitative research results of research results. The resources of this system are assigned to the best-performing public research institutions and universities [27].

The system is used as a central coordination mechanism adopted by most EU member states to improve the efficiency and results of public sector research systems and promote research excellence.

9. Rising social demand and sustainable financing

International aid to support higher education averages USD600 to USD800 million a year, representing a quarter of all international aid to the education sector in sub-Saharan Africa. This relatively low percentage reflects that most donors are now emphasizing the educational achievements of basic education development. In addition to a small amount of aid, two main factors limit the impact of aid. First, only 26% of support for higher education is transferred directly to African universities and research centers. The remainder will be paid through scholarships abroad or transferred directly to the donor students' universities. Second, the lack of donor coordination is also very detailed. At the same time, aid further supports the entire education sector and is provided in the form of general or departmental budget support. This gives the government more flexibility in how it allocates its budget for education. However, in the event of economic or financial difficulties, aid to higher education may conflict with other priorities, be it poverty alleviation, food subsidies, or energy [28].

Cost-sharing is increasingly being incorporated into the financing strategy of the higher education sector and should include specific scholarships or loans to maintain or increase the chances of enrolling students from poor families. Effective student loan programs are possible in sub-Saharan Africa, but they require proper design and proper implementation. African student loans must be accompanied by other forms of financial assistance, including careful use of grants and tolerance for repayment and eventual forgiveness in the case of low lifetime income or other conditions, especially if there is real evidence that some people hate debt students.

9.1 Investment budget allocation practices

According to budgeting modalities the decision to allocate investment budgets for higher education institutions is considered to be made through a fairly transparent and reasonable process. University campus construction is usually planned, prioritized, and expensive within the scope of the physical development plan approved by the educational institution. The following system monitoring agencies have compiled their own sub-sector investment key lists. However, investment allocation decisions may be subject to external influences and negotiations on behalf of the university authorities, because investment projects will not be affected by the pressure of the operating budget of the stakeholder group. For example,

Budgeting modality	Key feature	Requirements for data and technical expertise	Impact on sector performance
Historically based	Rewards concession skills	Minimal	Maintains position quo
Effort based	Rewards development of inputs	Moderate	Encourages expansion
Normative	Rewards loyalty to defined norms	Moderate	Encourages consistency
Recital based	Rewards outcome accomplishments	Considerable	Encourages quality and significance

Table 1.
Budgeting modalities.

the problem is unlikely to occur when quietly and administratively replacing a highway resurfacing project with a university classroom construction project. Three relatively new investment fund allocation mechanisms (designated financing, performance contracts, and competitive funds) solve this problem by incorporating clearer and more transparent decision-making criteria (Table 1) [29].

10. Business and education development in Nigeria

This content is about the huge capacity of Nigeria, the African continent, especially the largest market on the African continent. It is not easy to establish a successful foundation on the African continent, but the African continent has a huge investment capacity that cannot be ignored. Especially in Nigeria, this commitment creates a test case for the African strategy of consumer goods companies. This is not only because of scale but also because of Nigerian culture that has been traded for nearly a century [30].

According to Africa’s engine of growth and GDP the attached picture, the growth momentum of Africa, especially Nigeria, is much greater than that of the United States. Not surprisingly, the annual rate of change in Africa is also higher than in the rest of the world. The graph shows that after Nigeria, future investment

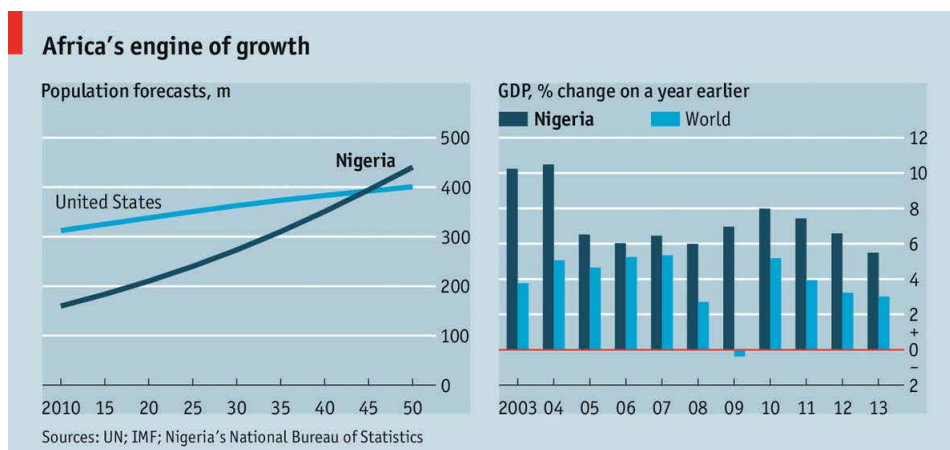


Figure 1.
Africa's engine of growth and GDP.

in new business opportunities may be concentrated on the African continent (Figure 1).

On the other hand, many problems are not solved currently in the continent with new opportunities. A shortage of electricity is one of the worst problems. Nigeria has one of the world's highest rates of road deaths and the government only recently made lessons and tests mandatory for new drivers, not the existing drivers that had brought out many casualties. Back to the shortage of electricity and other resources, these inefficient supply chains inevitably increase the cost of doing business, and another problem about getting goods to customers is not adjusted fully in the current market. The high cost of construction and land disputes have disrupted the growth of formal retailing that made the fragmented market difficult to forecast sales. Therefore, it is more obvious to increase the cost of doing business due to the dispersed customers with inefficient supply chains.

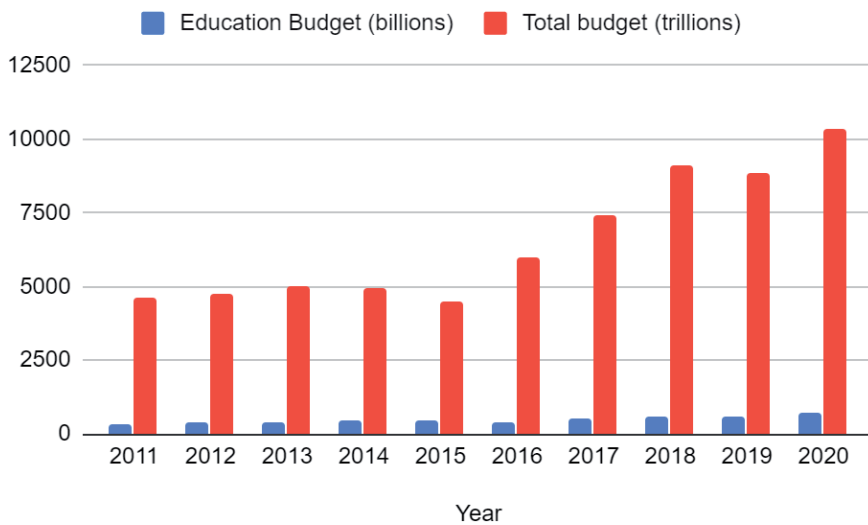


Figure 2. Education budget vs total budget, 2011–2020. (Source: Nigerian Bureau of Statistics).

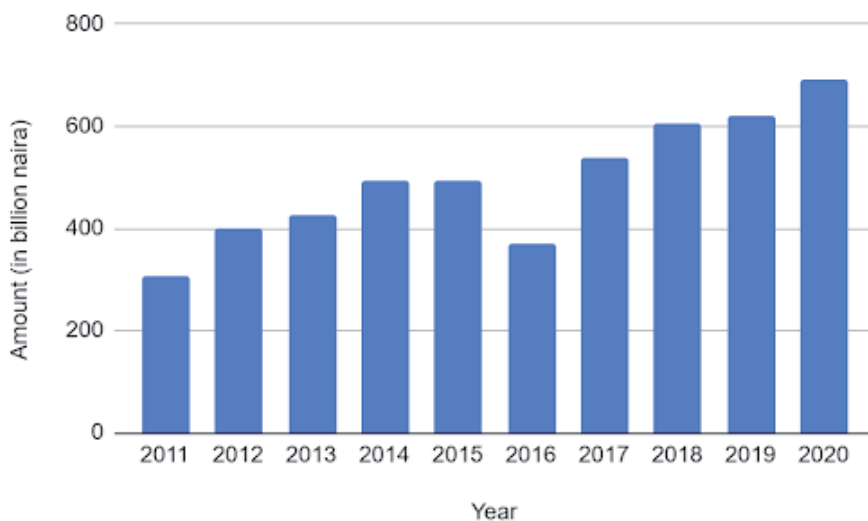


Figure 3. Nigeria's education budget, 2011–2020. (Source: Nigerian Bureau of Statistics).

The Federal Ministry of Education announced the temporary closure of all schools in Nigeria, effective March 23rd, in a bid to contain the spread of the COVID-19 [31]. The Learn from Home Program designed by the Ministry in April 2020 was focused on a small percentage of public secondary students leaving millions of students in public tertiary institutions stranded for over 3 months.

Inadequate funding has been identified as one of the main hindrances to growth in Nigeria's public education sector [32]. According to Nigerian Bureau of statistics in **Figure 2**, at face value, it may appear that the education budget has relatively increased over the years; however, **Figure 3** puts it into perspective.

11. The market model

The main course behind this model is a highly educational interesting part of the products or consumer/beneficiary, so if it is mobilized through dialog and effective marketing strategy, stakeholders of high education products or the consumer/beneficiary consisting. Market models emphasize marketing principles and market-driven approximation injection to do it completely circulatory. The model also needs to convert the transformation of traditional or developed universities (General in Africa) into a company or University of public or private [33]. Stakeholders or consumers of higher education products in the context of market models are: can contribute to higher education costs, such as the privatization of higher education institutions, sales, patent sales, and patent sales [34]. Research products -The contribution to the education costs of students/parents are due at a cost-sharing. Government agencies provide basic university funds through direct picking to public universities and provide higher education taxes [35]. Private sector: This is the possible use of graduates, the development of capital, the sponsorship of the students, the financing of the president of the professor, the financing of the investigation of contracts and the specialized research, and the financing of professional development (For example, it can contribute to the possible educational costs of the External Donor's Office and Meetings, it offers direct subsidies to higher education institutions, teachers, schools and investigators [36]. Financial institutions can provide funds for higher education through the payment of registration and other expenses related to educational loans. Graduates indirectly provide direct donations and gifts to higher education institutions to establish donations and trust funds. The donations of graduates and gifts are one of the sources of traditional income for Universe Solids in the United States, but unfortunately, it is not adopted by the institutions of African Higher Education, except public universities in South Africa.

12. Conclusion

In the context of establishing a vibrant and strong higher education subsector that can effectively promote the socio-economic and technological development of Africa in the 21st century, the current methods of funding public higher education are unsustainable (some have failed). Therefore, there is an urgent need to provide alternative funding for higher education. The proposed funding model for higher education has been tested in other countries around the world and proved to be successful. Take a look, there is no reason to doubt its success in Africa. In 2000, the Dakar World Education Forum promised that countries with reliable plans could not achieve the goal of education for all due to a lack of external funding. The most recent report reiterated this commitment, but now a new explanation is needed. This commitment can be seen as a truly altruistic gesture, increasing the scholarship

to the level required for all children to enroll. It can also be seen as part of the neo-liberal ambition to globalize contingent loan management as a means for financial institutions to maintain their influence and control over investment in education. Whatever the motivation for, it's time to re-examine whether these promises have been made and are fit for purpose 20 years from now. Some forecasts based on the promotion of education grants are feasible, or plans have been made that are more reliable than sustainable plans. External support for investment in education can be a catalyst and should be increased. However, the number of domestic imports and political will cannot exceed the level that can be maintained until 2030 and beyond. Higher levels of debt, directly or indirectly supported by public funds in the future, are not conducive to sustainable investment in education.


If an appropriate allocation decision is made, raise its funds for development to maintain the ambition of most African governments to become financial entities shortly and support public products such as national education. The problem of the financial gap in Wuyuehu's education has changed from an absolute lack of internal taxation to an investment in a modern taxation system, solving the problems of imbalanced distribution and low mobilization efficiency, and increasing the conversion rate through investment. This is the challenge of aid in providing support, which is a self-sustaining catalyst for change.

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Strategies Used by UNISA Student Teachers in Teaching English First Additional Language

Margaret Malewaneng Maja and Masilonyana Motseke

Abstract

The teaching of English to non-English speakers in historically disadvantaged areas of South Africa is a difficult task for student teachers. This study was conducted in the township schools at Ekurhuleni North District, in the Gauteng province of South Africa. The purpose of the study was to determine the extent to which students at the University of South Africa (UNISA) used interactive teaching strategies in the teaching of English as a First Additional Language (EFAL). The study also intended to highlight the support provided by UNISA lecturers to these student teachers. The study was grounded in interpretivism with self-determination theory (SDT) informing it. The study was a qualitative descriptive case study with document analysis, observations and semi-structured interviews utilised to collect data. Purposive sampling assisted in selecting six student teachers, of which three were male and three were female. The student teachers were studying in their 3rd and 4th years of the Bachelor of Education degree (B.Ed.), specialising in English. Data collected were categorised into codes and themes. The findings reveal that student teachers only used pictures, charts and flashcards as interactive teaching strategies in teaching EFAL. It was concluded that student teachers were not well-prepared in the use of interactive teaching strategies in the teaching of EFAL and were not adequately supported by the university. It is recommended that UNISA lecturers should regularly visit student teachers during their teaching practice offering support, motivation and advice.

Keywords: interactive teaching strategies, English First Additional Language, open distance learning, teaching practice, student support

1. Introduction

The use of English as a language of business and communication in many countries has dramatically increased the importance of English in the world. This trend has also popularised the teaching of English in non-English speaking countries. Due to the increased demand for instruction in English, 80% of the English teachers in the world are non-English speakers [1]. Studies have shown that the teaching of English to non-English speakers is a complex task for student teachers [2, 3]. This is because the learning or acquisition of English as a second language, is characterised by a number of factors, such as the environment in which it is learnt, the teaching methods employed, and the resources available to enhance its

teaching and learning [4–6] assert that as traditional teaching methods are used in the teaching of English First Additional Language (EFAL), communicative skills are not being adequately developed in the classroom. For instance, the teacher-centred lecture method, which is commonly used by many township teachers, does not offer learners the opportunity to use the EFAL. Therefore, [7] believe that student teachers need to have effective interactive teaching strategies in order for learners to acquire the target language.

The purpose of this study was to determine the extent to which University of South Africa (UNISA) student teachers used the interactive teaching strategies in the teaching of EFAL in the Intermediate Phase (Grades 4 to 6), as well as to highlight the extent to which university support was offered to these student teachers. The study sought to answer the following questions:

- What interactive strategies do UNISA student teachers use in teaching EFAL?
- To what extent are the UNISA student teachers supported by lecturers in using interactive strategies in teaching EFAL?

Teaching strategies refer to a broad plan of action, which includes the selection of teaching activities with the purpose of achieving a specific outcome [8]. Van Wyk [8] indicates that teaching strategies include methods, procedures, activities and techniques that may assist the teacher in promoting learners' ability to understand the learning content. Therefore, teaching strategies are methods and activities that student teachers use to engage learners in the acquisition and development of English as a first additional language. Ko et al. [9] state that an interactive teaching strategy is instruction that enables the achievement of a specific goal through an active participation of learners in the learning and teaching process. This implies that in the use of an interactive teaching strategy, the student teacher becomes a facilitator who encourages learners to actively participate in the teaching and learning process. Since English is not their home language, learners should be encouraged to use it freely. The [10] stresses that when using interactive teaching strategies, language learning should be a natural process with learners being exposed to the target language and being given opportunities to practise or produce the language by communicating for social or practical purposes.

Interactive teaching strategies differ from teacher to teacher, the subject matter engaged with and the learning context. A study by [11] found that primary school English student teachers in the United Kingdom used pictorial resources, prompts, pair work, visual aids, gestures and target words as interactive teaching strategies. In addition, the student teachers provided learners with increased opportunities to work with others to improve proficiency in the target language [11, 12] show that the student teachers' responses suggested that these interactive teaching strategies develop learners' basic speaking-and-listening skills and reading-and-viewing skills, which may enable the learners to write correct spelling. Mansour et al. [13] found that in Khartoum, Sudan, interactive teaching such as group discussion, brainstorming, case studies and role-play minimised learners' fear and anxiety in the learning of the target language. In addition, interactive teaching strategies help collaboration in learning, reflect on learners' use of language in discussions, discourage memorising of facts, improve behaviour, increase the attention span and enable learners to express feelings [14–18] found that interactive teaching strategies may provide for diverse learning opportunities, since learners are motivated to play an active role in the teaching and learning process.

Harvey and Prinsloo [19] believe that in the South African context, student teachers' use of interactive teaching strategies in EFAL can only be learned through

teacher training. However, the physical and psychological distance characterised in an open distance learning (ODL) environment, may be frustrating for both student teachers and lecturers. Walters-Archie [20] affirms that students in distance learning, experience a sense of loneliness, isolation and disconnectedness. Hence, the provision of academic support is essential for student teachers in an attempt to bridge the gap between the lecturer and the student. Walters-Archie [20] states that the support provided to ODL student teachers should enable them to have a sense of belonging and connection to the institution and its programmes. Van Wyk [21] argues that a student who is fully motivated may overcome barriers of situation and time and find ways of developing appropriate skills in order to be able to deal with the stress of study with very little extra external support. However, student teachers' subject knowledge and teaching skills flourish when they are supported or provided with academic language skills and subject-matter concepts [22]. To achieve didactic excellence, [23] recommend that the academic programmes include teaching practice experiences as this helps student teachers experience what it means to be a teacher under the guidance and mentorship of schoolteachers and university lecturers.

The teaching of EFAL in South African schools is complex and as such, interactive teaching strategies may be difficult to apply in many of the schools. For instance, many schools for African learners are characterised by overcrowding, lack of resources and facilities, shortage of teachers and poor parental involvement in school matters [24, 25]. Learners from historically disadvantaged areas tend to come from poor and diverse socio-cultural backgrounds [25]. In addition, many African teachers obtained their teaching qualification during the apartheid era, when education and training provision for Africans was inferior and resulted in poorly trained teachers [26]. Although a democratic government was elected in 1994, problems, which had plagued South Africa prior to democracy, are still experienced in many African schools [27]. This implies that the teaching and learning taking place in historically disadvantaged areas is inadequate and below expected standards due to lack of resources, shortage of teachers and ill-discipline among learners [28]. As a result, it may be that challenges experienced in schools have a negative impact on the teaching practice of EFAL student teachers.

This study was conducted in township schools in the Ekurhuleni North district, in the Gauteng province of South Africa. In these schools, home language is the language of learning and teaching (LoLT) from Grades R to 3 (Foundation Phase) and EFAL becomes the LoLT for Grades 4 to 7 (Intermediate and Senior Phases). Nemati and Taghizadeh [29] believe that a good knowledge of the home language is important for the acquisition of second language, since the learners use the skills and rules of the first language to learn the second language.

In South Africa, there is no use of interactive teaching strategies among African teachers due to poor teacher training [30]. The researchers, having realised the need for the advancement of the knowledge gap pertaining the interactive teaching strategies, were thus prompted to investigate how UNISA student teachers teach EFAL and to highlight the support provided by their lecturers during their teaching practice.

2. Theoretical framework

The researchers drew from the self-determination theoretical (SDT) perspective to explore the use of interactive teaching strategies used by UNISA student teachers and to the extent to which they were supported in the teaching of EFAL. SDT, a theory of motivation developed by [31] describes intrinsic types of motivation, and outlines how these motivations influence situational responses in different spheres,

as well as social and cognitive development and personality [32, 33] argue that motivation is one of the most significant components of learning in any learning environment. Researchers like [34] and [33] have illustrated that motivated student teachers tend to accomplish more difficult activities, take on active roles in activities, enjoy these activities, adopt a deeper approach towards learning, and display higher performance, continuity, and creativity. Deci and Vansteenkiste [35] state student teachers should have autonomy to be self-directed, take control of their own learning, and have the competence that enables efficacious interactions with learners. In addition, there is the need of relatedness which aims at connectedness to other student teachers and lecturers in order to experience caring and feelings of belonging. The theory proclaims that the student teachers' basic psychological needs of autonomy, competence and relatedness are significant in order to flourish and grow in the teaching of EFAL [32]. Therefore, in this study, the student teachers' level of performance was presumed to be a determinant in the extent to which they were motivated to enjoy and appreciate the opportunity afforded by teaching practice, applying and implementing their knowledge and utilising the resources available.

3. Methodology

The study was qualitative in nature and was grounded in the philosophy of Interpretivism. Qualitative researchers study phenomena in their natural settings, attempting to make sense and interpret them in terms of the meanings people bring to them [36, 37] assert that binding the case may ensure that the study remains reasonable in scope. The study was a descriptive case study, focused on selected undergraduate 3rd and 4th year Bachelor of Education (B.Ed.) degree students specialising in EFAL in the Intermediate Phase.

The sampling strategy was purposive. Purposive sampling occurs when individuals are selected as they possess the attributes of interest to the study [36]. A list of Ekurhuleni North District B.Ed. student teachers was requested from the teaching practice office. The researchers focused on the 3rd and 4th year student teachers who were undertaking EFAL teaching practice in the Intermediate Phase during the third term. Of the eleven 3rd and 4th year student teachers on the list, six were selected as they were practising teaching in the township schools while the others were in the former model C schools. Three student teachers were male and three females. Three of the participants were in the 3rd year of the B.Ed. degree, and the other three in the 4th year. These student teachers were selected as they were placed in a disadvantaged area and the purpose was to determine how they use the interactive teaching strategies and the support they received from UNISA. Arrangements for observation and interview visits were scheduled with the student teachers and relevant school principals. To ensure anonymity, pseudonyms were used to identify participants.

Data were collected through observations, semi-structured interviews and document analysis. Creswell [38] explains that observation is the process of gathering open-ended, first-hand information by observing people and places at a research site. The designed observation protocol contained the aspects to be observed during EFAL lesson presentations by the student teachers. Semi-structured interviews, a qualitative method of inquiry that combines a pre-determined set of open questions (questions that prompt discussion) with the opportunity for the interviewer to explore particular themes or responses further [39], were also used for data collection. The Curriculum and Assessment Policy Statement (CAPS) for EFAL document [10] was also analysed during the document analysis phase. Creswell [38] affirms that documents are ready for analysis without the necessary transcription that is required with observational or interview data.

Thematic data analysis was used through the process of coding in six phases to create established meaningful patterns [39] and themes were clearly defined. The researchers read and allocated codes to the raw data. From the developed codes, themes emerged, and these were refined by checking for data coherence. The themes were also named, and clear definitions were presented. This was followed by a narrative discussion related to the themes.

4. Discussion of themes

The purpose of this case study was to explore the use of interactive strategies in the teaching of EFAL by UNISA student teachers during their teaching practice in township schools of South Africa. Emanating from the results, the following themes emerged and are discussed below.

- Theme 1 – Use of pictures, charts and flashcards
- Theme 2 – Seating arrangements
- Theme 3 – Code switching
- Theme 4 – Academic support offered by lecturers

4.1 Theme 1- use of pictures, charts and flashcards

It was expected that student teachers would use interactive strategies during their lesson presentations as it may provide for diverse learning opportunities, since learners are motivated to play an active role [18]. However, only two of the student teachers observed during teaching practice used small group discussion, while the other four used pictures, charts or flashcards in their EFAL lesson presentations. Student teachers discussed their particular choice of strategies and justified their use:

I use flashcards, or flash words. ... which means my level of flashing will be different. If I'm flashing the sentence, the simplest sentence that I'm going to show them is the opportunity I give learners who are struggling to spell the words. (Student Teacher 1)

I believe in charts. Something like this one (grabbing the charts bound together), these are charts that keep the learners through the lesson and I actually fold them because they get lost. If you take the chart with the picture there, it unlocks the child's memory to know what the teacher is all about and what is supposed to write (sic). (Student Teacher 2)

The most effective strategy for me is pictures and charts. (Student Teacher 3)

The strategy that I use is the direct approach. The direct approach is when I use the pictures that I have with me and then learners will be talking one by one. (Student Teacher 4)

The student teachers believed that the use of pictures, charts and flashcards was effective in involving learners in the lesson, or in helping the learners talk to each other and discuss using English as the medium of communication.

The student teachers reported that they utilised pictures, charts and flashcards to enhance their teaching, as it also offered learners an opportunity to view-and-read. Learners, for example, looked at the word or sentence displayed on the chart, read it aloud, and then they wrote it in their books. This strategy assisted learners reinforce the spelling of the word or sentence in their minds, thus improving retention of information. Read [11] affirms that reading-and-viewing skills may enable learners to write the words using correct spelling. Sun [40] found that the use of charts and flashcards supported comprehension through both textual and illustrated contexts and reinforced the meanings and memory of words, thus developing vocabulary. The common use of pictures, charts and flashcards could be a confirmation that the schools visited were poorly resourced, and consequently, there were no other resources available to use, except pictures, charts and flashcards, which could be easily produced by student teachers (even at their own expense). It is assumed that student teachers took an active role in creating the above-mentioned teaching aids for learners to understand and enjoy their lessons.

Interactive teaching strategies such as brainstorming, case studies and role-play suggested by [13] were not used by the student teachers in their teaching practice. The reason could be the student teachers were not adequately trained to apply the above-mentioned interactive teaching strategies.

Non-availability of resources may have served as a poor motivator for student teachers, influencing how they taught their EFAL lessons. In ODL institutions, students are generally computer-literate and use computers, smart-phones and other devices to communicate, to prepare assignments and to access information [41]. However, the lack of computers at these schools may have affected student teachers' enthusiasm and preparedness to work, although it seems that all used other more traditional visual aids.

4.2 Theme 2: seating arrangements

It was observed that two student teachers had seated their learners in small groups, while the other four had their learners seated in the traditional way (in rows as in a bus). During interviews, the two student teachers who had seated their learners in groups, reported that the seating arrangement was very helpful in their lesson presentations as this facilitated group work both as a strategy for discussion, as well as support or scaffolding for weaker learners and in addition, it allowed the teacher to interact with each group on a more personal level.

They are seated in groups and the stronger ones mixed with the weaker ones. They help each other when is time for assignments. (Student Teacher 1)

I walk around the groups when learners are doing their tasks and help learners with special needs. I use group discussions. (Student Teacher 3)

The four student teachers who had seated their learners in traditional rows complained that the classes were too big (too many learners), and because of the lack of space, it was difficult for them to arrange them in smaller groups.

There is not enough space for groups in the venues. I can hardly find space to move around. (Student Teacher 2)

It seems it is impossible to make groups due to overcrowding. The teachers here prefer this arrangement. (Student Teacher 5)

The results revealed that while two student teachers seated learners in small groups, others allowed learners to be seated in traditional rows. The student teachers who had seated learners in small groups, saw the benefit of such an arrangement, since other learners in the group supported slower learners [42]. The small group seating arrangement established by these student teachers motivated them to create a conducive teaching and learning environment and facilitate the teaching and learning process. However, the student teachers who had seated learners in the traditional rows complained about overcrowding. Overcrowding, which is a serious problem in many township schools, is accompanied by serious shortages of resources and facilities and makes the teaching and learning process a difficult task for many teachers in these schools [24, 25]. The implication is that the teachers in schools that utilise the traditional seating arrangement may be powerless to bring about any changes. This situation could be challenging for student teachers and have an effect on their performance in the classroom and their ability to use interactive strategies in teaching EFAL.

4.3 Theme 3 - code switching

Code switching refers to the choice to alternate between two or more languages within the same sentence or conversation [43]. The use of home language during the EFAL teaching was common in the classes observed. With regard to interviews, the student teachers reported that they switched to home language in cases where learners did not understand and needed clarification on certain aspects of the lesson and better understanding of concepts and meanings.

I use English every time, every time. I do switch in other learning areas and in English lesson where you find a concept and you see blank faces (bowing down to show breaking up in communication), and for me to bring them back, I just switch for few seconds at least I have their attention back again so that I can run with the lesson. (Student Teacher 2)

I do it only here and there where they don't understand, I have to switch to their language but not all the time. (Student Teacher 3)

The two student teachers did not code switch as they could see the value of consistent use of English as the language of teaching and learning through the lessons to ensure that the learners were exposed to the language which would then assist them in acquiring and developing their language skills. It was assumed that the student teachers' control of their own learning of English resulted in the competency that enabled them to engage in effective interactions with learners.

If you want to see the kids progressing well, never switch to the home language. (Student Teacher 1)

I have realised that code switching disturbs the learning and use of English. That is why I use pictures and gestures to try and explain what I mean. (Student Teacher 4)

The findings indicate that code switching was common in many EFAL lesson presentations by UNISA student teachers. According to [44] and [45] code switching is discouraged by many authors who believe that it delays the learners' acquisition of English. However, English is the second or third language for many African teachers and learners [46] which may just have an effect on the development of

English. In addition, the exposure of African learners to English in South Africa is very limited, particularly in the townships [46]. Hence, learners may find some words and statements very difficult to understand, thus compelling the teacher to switch to the home language for the sake of understanding and progress. The student teachers in this study were also from a non-English speaking background, although they had selected to specialise in EFAL, and ultimately become professional EFAL teachers.

4.4 Theme 4: academic support offered by lecturers

Minimal support from UNISA lecturers was observed. Of the six student teachers during the teaching practice, five were visited by UNISA lecturers. However, of the three lecturers who visited the student teachers, only one lecturer was helpful, and could give the student teachers advice in how to deal with lesson presentation. The following comments of the student teachers confirmed the situation:

My lecturer once visited me when I was studying year 2. Now, No. The only person assisting is my mentor teacher. (Student Teacher 1)

The supervisor visited me. He had a meeting with me before the lesson and asked me how I am doing with my portfolio. He looked at it and asked when the due date is. He did not help me with my assignment. (Student Teacher 2)

No one came to support me, and I am left with three days to finish my five weeks teaching practice. I hope I will get support next year when studying my last year. It is frustrating to be on your own while teaching. I do not know how to handle the big class, as learners are rowdy. (Student Teacher 3)

Support? Sometime last year one of UNISA lecturers supported me. She was of a great help as she advised on how to prepare my lesson and how I can approach the topic I was teaching. (Student Teacher 4)

The lecturer who visited me showed me how to introduce a lesson. She even demonstrated how to introduce the lesson. Learners were participating and liked it. I am now trying to emulate her when I introduce the other topics of the lesson. (Student Teacher 5)

The other man came to observe my lesson but did not say anything concerning my teaching method. He gave me average marks and told me to improve in giving learners time to talk and not to talk alone. (Student Teacher 6)

The support from the university staff seemed inadequate. It is customary for teacher training institutions to provide support to their student teachers when they are undertaking teaching practice. This is done by way of liaising with schools that host student teachers in their schools and arrange for the appointment of mentor teachers [47]. UNISA lecturers and external supervisors (retired teachers who assisted with the student teacher supervision) were assigned to visit student teachers at the schools where they were placed at different times during the first, second and third school terms. Most of the external supervisors were never exposed to the interactive teaching strategies during their training due to the apartheid education policy, which intended to offer poor teacher training to African teachers [26]. Therefore, the student teachers may have experienced inadequate support from the external supervisors. Hence, the student teachers felt neglected, isolated and not

supported to address challenges that they faced. The provision of academic support and presence of lecturers during teaching practice can minimise student teachers' sense of loneliness, isolation and disconnectedness in ODL.

5. Recommendations

The following recommendations were made:

- The policy on the use of interactive teaching strategies should be emphasised in the ODL curriculum to prepare student teachers to teach EFAL.
- UNISA lecturers should regularly visit the student teachers for support and motivation during their teaching practice, as per policy requirement.
- All UNISA lecturers who visit student teachers at schools should support and guide student teachers on the use of interactive teaching strategies.
- More research on problems encountered in the teaching of EFAL in schools should be undertaken, and student teachers be trained on managing these problems.
- Future research should be on how UNISA could empower the lecturers and external supervisors to support the student teachers in interactive teaching strategies.

6. Conclusion

The study focused on the extent to which student teachers managed to use interactive teaching strategies in the teaching of EFAL. The results have indicated that the circumstances under which student teachers worked were not conducive to the implementation of interactive teaching strategies. A number of challenges, which include lack of resources and overcrowding were experienced, student teachers themselves were not well-prepared to apply interactive teaching strategies in the teaching of EFAL, and in addition, support that student teachers received from UNISA was not adequate. It was recommended that student teachers should be prepared to teach EFAL, supported and motivated during the teaching practice and trained on how to manage problems.

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Higher Education Institutions (HEIs) in Africa Embracing the “New Normal” for Knowledge Production and Innovation: Barriers, Realities, and Possibilities

Christopher B. Mugimu

Abstract

If Africa is to remain relevant and competitive in today’s knowledge-based economy, it has to rely on higher education institutions (HEIs) as centers of excellence for knowledge production. HEIs nurture and sustain the production of highly-skilled individuals to support Africa’s growing economies. Among all possible ways, this could be achievable through strategic curricula innovation driven by emerging mobile technologies. Consequently, Africa’s HEIs need to embrace the ‘New Normal’ by optimizing online teaching and learning in their pursuit to expand information and communications technology (ICT) literacy as a means to increase students’ opportunities in higher education (HE). However, Africa’s ability to embrace the ‘New Normal’ has been marred by inadequate ICT infrastructures, low connectivity, unreliable power supply, and national budget constraints that may undermine Africa’s HEIs’ potential to augment knowledge production and innovation.

Keywords: curriculum innovation, higher education, knowledge production, knowledge-based economy, the ‘New Normal’

1. Introduction

In this chapter the focus is on higher education (HE) curricula innovation geared towards online teaching and learning and responsiveness to the demands of globalization. Globalization is inevitable worldwide phenomenon regardless of the different countries’ existing social, cultural, economic and political boundaries. “Globalization serves as the impetus for sociopolitical and economic change and... perpetuates a borderless world where practices and ideas are shared across space and time aided by technology, mobility, communication, socioeconomic relationship, and environmental interdependence” ([1], p. 21). Indeed, the impact of globalization may have fueled many new developments, such as, the increased focus on knowledge-related resources (an innovation, an idea, a solution) as opposed to tangible industrial natural resources (land, timber, rubber) in traditional economies. As such, globalization has led to many “unprecedented developments in information technologies and social media; the pervasive impact of economic liberalization and trade agreements; the increased

critical resource that is needed to operate in the globalized knowledge economy. The focus is now more on knowledge as opposed to increased emphasis on the accumulation of tangible resources. As such, knowledge is looked at as a commodity or an asset and it is also seen as a catalyst in modern economics ([3], p. 291). Nevertheless, the “use of knowledge is the main driver of economic development and a powerful engine of production” ([4], p. 8). Currently, efforts to accumulate more tangible resources (i.e. building structures, computers, photocopies) without adequate or sufficient knowledge on how to use the resources seems not to make sense anymore. This does not mean that tangible resources are no longer important. However, the value of tangible resources is diminished without the knowledge on how to use them innovatively. Therefore, such people who are capable of generating knowledge or ideas leading to solutions that address current global challenges are on an increasing demand. They are on demand because they contribute both directly and indirectly towards the knowledge production. Knowledge production refers to ability to generate innovative knowledge/ideas and solutions to address real-life situations or challenges. Indeed, innovation is a product of knowledge production. HEIs should play a significant role in knowledge production and likewise incredibly contribute to innovations. In theory, one best way of becoming innovative is by engaging and interacting with innovations [5]. Therefore, HEIs must create conducive environment for students that actually represent the world of innovation through scientific research, technology and knowledge production. Indeed, developed and developing economies of the world increasingly lay much more emphasis on knowledge production in terms of generating innovative ideas and patent creation to optimize their competitive advantage in the globalized market share. “Globalization has also been an important factor in opening new markets and internationalization of trade in knowledge sectors that have exposed the world economies to international competition” ([4], p. 7). This has also stimulated “the creation of global labor markets of highly skilled workers, investment and access to new technologies, information, idea and knowledge flows from around the world that have accelerated the transition to a knowledge-based economy” [4]. Knowledge-based economy refers to economies focusing on “increased specialization, research, innovation, and learning driven by new information technologies” ([6], p. 10). The new information technologies are so important drivers of the knowledge-based economy that if Africa is to remain competitive, it needs to expand its networks for improved information sharing [3]. Most importantly, the knowledge-based economy emphasizes the use of ‘knowledge’ as an asset to leverage the growth and development of world economies. As a matter of fact, some countries have been so good at flexibly creating and producing new knowledge quickly to address current local, regional, and global problems facing society. These countries have been able to obtain significant economic gains through such innovation and knowledge production. Besides, these countries have continued to prosper in spite of the impact of globalization. However, the majority of third world countries have been unable to make the necessary adjustments in terms of globalization responsive curricula especially for higher education and the quality of their education systems is generally low. Consequently, they have tended to stagnate in their economic, social and technological developments. Yet if Africa to remain relevant and competitive in today’s knowledge-based economy, the continent has to revamp her HEIs as centers of excellence for knowledge production.

4. Higher education (HE) in Africa

While HE is not a new concept in Africa, this level of scholarship has been a preserve for the privileged few. Back in the colonial days [1880s–1950s], HE in Africa

was first accessed only by the children of the chiefs and loyal families. However, prior- and post-independence in early 1960s and 1970s many governments in Africa recognized the role of HE in economic and human capital development. Much as African governments at that time committed modest resources to HE, these governments extended HE opportunities to children from poor families who academically brilliant. The motivation was to prepare citizens for the few government white color jobs. However, the 1990s onwards have seen declining governments' commitments towards financing of HE in Africa. Equity in financing of HE remains a huge challenge in Africa [7] and yet, "the doors to HE must be open to all worthy students, regardless of their socioeconomic status, gender, and regional origin" ([7], p. xiv). Interestingly, the demand for HE in Africa is rapidly expanding and the numbers of private HEIs in Africa have more than doubled in the last two decades. For example, "in 2018, there were 1682 universities in Africa, up from 784 in 2000" [8]. HE also contributes to social mobility by enabling low-income students to move up the income ladder [7]. However, Africa's knowledge capital remains very low due to poor quality of education since most graduates lack the needed competences [9].

It is also important to note that the developed and developing/emerging economies of the world have invested heavily in HE compared to third world countries. Evidence shows that "nations increase their knowledge base by investing heavily in HE and research institutions in order to position themselves in the global competition" ([3], p. 292). Thus, African nations should consolidate their efforts towards ensuring the quality of higher education and training with particular emphasis on laying a firm foundation in scientific research, technology and innovation [8]. This of course has serious implication on financing of HE. Indeed, "production of new knowledge is and [remains to be] the core function of tertiary education" ([10], p. 12). This core function can be enhanced even further when HEIs emphasize and promote cross cutting-edge scientific research, technological knowledge and innovation in response to compelling social, economic, political, and environmental problems facing our society.

"Education leaders regardless of their location will need to position their institutions at the intersections of commerce, culture, and technological transfers to gain the most out of the connectivity and knowledge that benefit their local quality of life" ([11], p. 609). Indeed, society should look up to HEIs for the creation of new knowledge and innovation [12] granted that "Universities can also be important magnets for talent and innovation, when attracting top students" ([13], p. 114). The top students with best brains can make a difference through their contribution to knowledge production and innovation. Thus, HEIs are not only engines of innovation but also incubators for economic transformation and development to meet the global challenges [8].

Regrettably, as earlier indicated, there has been declining investment in HE in most African countries. This is reflected by the fact that most HEIs in Africa with the exception of Egypt and South Africa have tended to lag behind in cutting-edge scientific research, technology and innovation [8]. Indeed, African nations continue to be major knowledge consumers and seekers as opposed to knowledge creators/producers. In fact, the continent's research output is extremely low accounting for 1.01% of the global research output [8]. As such, Africa as a continent will continue to be alien to the main players that substantively contribute towards the solution formulation to meet real global challenges. Indeed, "The potential of HE's contribution to Africa's development remains underdeveloped and often misunderstood, [Yet,] in today's globalized world, which prioritizes economic growth through liberalized trade and competitive market strategies, much emphasis has been placed on HE's ability to produce graduates to serve the labor market and produce new knowledge for the knowledge economy" ([2], p. xiii). However, this potential

cannot be achieved if HEIs continue to produce graduates with mismatched skills to the current job market [14]. The question of ensuring that the individuals that graduate from HEIs are employable in the twenty-first century remains a huge concern in Africa [8].

This has serious implication for the existing “institutional missions and curricula” ([1], p. 21). There is need to revisit the relevance of the current institutional missions and curricula especially by focusing on their alignment with the twenty-first century job market demands. Thus widening access and opportunities for HE in Africa without actually ensuring that the rising numbers of graduates are employable and have acquired the twenty-first century skills remains a serious dilemma. However, one cannot dream of graduates being endowed with the twenty-first century skills without the curricula integration of such skills into interactive and engaging activities and experiences for students. This requires to focus on the utilization of pedagogical strategies that can enhance student-centered learning [15]. For instance, encouraging student’ led inquiry and collaborations, prepares them to operate effectively, communicate and work independently. Thus, the need to adjust curricula and pedagogical demands of the twenty-first century HE [8] cannot be underestimated.

However, this is unlikely to happen unless HEIs revisit the issue of quality in terms of education and training experiences offered to their young people granted that educational quality is the key to enhancing the quality of citizens/people [9]. Therefore, it takes quality education and training experiences to develop quality knowledge capital. For instance, creating provisions for active participation/engagement of youths in scientific research draws them into increased learning opportunities that can promote the development of innovative ideas [5] and hence, their likelihood to contribute meaningfully in creating innovative projects. In fact those involved in the innovation research projects and processes tend to organically gain competences through interactive learning [5].

5. Embracing the ‘New Normal’ in Africa

The pandemic has disrupted all walks of life and the most affected sector is education. It has been reported that millions of school and college going children are out of school. Thousands of parents and teachers have succumbed to the pandemic. This has left education, the already overburdened sector with fewer teachers as well as other support personnel. HEIs closed in 175 countries leaving over 220 million post-secondary students whose studies were disrupted due to COVID-19 [16]. It is also important to note that even long before the pandemic, many countries in Africa were not ready to fully embrace the “New Normal” [17]. As such, the pandemic has worsened the situation for majority of African countries and stopped them from getting ready to embrace the New Normal by disrupting the basic progress already made in terms of their technological innovation and knowledge production. Consequently, it has also compromised Africa’s ongoing economic and social development.

Indeed, if these countries do not adapt modern knowledge systems and tools; they stand a danger of becoming laggards or passive bystanders in the future” ([3], p. 293). Given that the continent’s “natural resources are rapidly depleting, and Africa’s economic survival and prosperity will increasingly depend on its knowledge capacity and human capital investment [12]. Indeed, there is need of glooming innovative individuals in Africa who are better able to generate both new and local knowledge and ideas or make new use of existing knowledge ([12], p. 301). The failure to do so will accordingly undermine Africa’s competitiveness in terms of

technological innovation and knowledge production. However, it is important to explore the current realities surrounding information and communications technology (ICT) potential for HEIs in Africa. The following section presents the current realities surrounding ICTs and their impact in the globalized knowledge economy.

The current advancements in ICTs and mobile technologies have stimulated information sharing and knowledge-based economy which have been driven by even those fast moving sharing ICTs [4]. “ICT is both a driving force and enabler of the processes toward a knowledge-driven global economy. It allows HE providers to accommodate the specific needs of students in terms of mode, pace, place and time of study and to cater for different and new target groups and (niche) markets both locally and globally” ([18], p. 36). However, “the integration of ICTs into teaching is still in its infancy in Africa” [18].

In recent years, there has been an increase in blending of ICTs and emerging technologies as drivers of numerous economic and social activities including education. For instance, mobile technologies have been used to transform the teaching and learning processes in higher education [19]. Increasingly, institutions are looking for ways of reducing costs through the use of emerging mobile technologies. Mobile technologies have become part and parcel of our daily life, hence, the ‘New Normal’. Many people also have come to appreciate that more can be achieved with less through the use of emerging mobile technologies.

“This emerging blend will also affect curricula and policy questions, such as what? and what for?” ([20], p. 3). The challenge is to translate the New Normal applications as drivers of interactive learning and innovative ideas. Yet, evidence show that online ICT and emerging mobile technologies could also take education and training to another level in terms of enhancing innovative interactive teaching, learning and skill development post pandemic [21]. The four new roles of technology in helping teachers improve their work include; improved record keeping for student learning, planning for student learning, instructions for student learning, and assessment for and of student learning ([22], p. 370). This allows the teacher to gain control over the facilitation and management of students’ learning experiences.

“Technology and integration have led to increased demand for higher-order general cognitive skills—such as complex problem-solving, critical thinking, and advanced communication—that are transferable across jobs but cannot be acquired through schooling ([23], p. 78) transferable social behavioral skills i.e. teamwork, resilience, self-confidence, negotiation, and self-expression ([23], p. 80). Indeed it is recommended that for online learning there is need to move away from “the recall focus... and concentrate more on how to recapture the powerful improvisational and impromptu conversations and interactions that lead to group innovation” ([24], p. 232). “As we move into online and blended environments, there is also need not to focus on what is easier to teach online (information) instead of what is more difficult but also important (collaboration, creativity, and critical thinking)” ([24], p. 234). The idea is to create activities or tasks that are meaningful and worth of the time that students invest.

However, in an effort for HEIs in Africa to embrace the New Normal it may need to avoid the four most common mistakes in introducing technology into teaching namely: (i) installing learning technology without reviewing student needs and content availability; (ii) imposing technological systems from the top down without involving faculty and students; (iii) using inappropriate content from other regions of the world without customizing it appropriately; and (iv) producing low quality content that has poor instructional design and is not adapted to the technology in use ([18], p. 37). In an effort to move forward HEIs need to avoid the above mentioned common mistakes of integrating technology in teaching. This could enhance

their optimum utilization of meager resources as well as avoid unnecessary investments. As earlier indicated that advancing ICTs and emerging mobile technologies such as cloud computing solutions has the potential to actually reduce the cost of education [22, 25]. For instance, digitization of curricula content and instructions could make information storage, sharing and retrieval much easier and cheaper. Subsequently, millions of students and teachers can be able to use and benefit from the same materials without necessarily adding an extra cost for material production. It is also important to note that “knowledge products are inexhaustible and their use is not limited by spatial boundaries or geographical distance” [26]. One of the promises of online technologies is that they can increase access to nontraditional and underserved students by bringing a host of educational resources and experiences to those who may have limited access to on-campus only higher education [20]. However, numerous barriers exist that have tended to undermine the potential of embracing the New Normal in HEIs in Africa. Yet, the New Normal has come to stay which necessitates students to become more tuned to the flexibility and conveniences of programs associated with online/virtual learning compared to face-to-face learning. This almost leaves no chance for those HEIs that shall opt for the traditional option as they are most likely to be outcompeted and will fail to survive.

6. Barriers hindering Africa’s HEIs to embrace ICT in teaching and learning

In Africa, embracing the advancing ICTs and mobile technologies to support virtual learning through enriched pedagogy and curriculum delivery remains a major challenge [12]. As such, HEIs have to proactively deal with these barriers in order to respond effectively with associated global demands. These barriers include but not limited to; lack of digital technologies, high cost of Internet and low broadband connectivity, inadequate ICT literacy, emerging information security threats, and unreliable power supply [25]. Other barriers that also hinder innovative use of ICT include “lack of confidence, experience, motivation, and training; access to resources and timetabled use of dedicated ICT classrooms; unreliability of equipment; classroom practices which clash with the culture of student exploration, collaboration, debate, and interactivity within which much technology-based activity is said to be situated” ([27], p. 28). Indeed, lack of online pedagogical skills of teachers and students, negative attitude about online learning, over emphasis on technology at the expense of learning, lack of support for online learning [28] and the COVID-19 pandemic have also compromised the progress made by majority of HEIs in Africa in their effort to embrace the new normal to support online pedagogy.

7. Current realities and repositioning of Africa’s HEIs in ICT era

In the context of advancing information technology and knowledge production, a lot has changed in the way we do business. Increasingly people are looking for innovative ways of providing better, cheaper, and affordable services and will continue to do so. It is important for Africa as a continent to appreciate the current realities of the impact of globalization (**Table 1**).

Basing on these realities, clearly the world is moving towards the adoption of online driven virtual business. Thus, there is no way Africa as a continent could afford to lag behind the rest of the world by its failure to build capacity in online tools and opportunities to advance innovation and knowledge creation. Therefore,

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- If someone is not willing to make the necessary adjustments in his/her field or profession and move forward; many others may be willing to do so and as such the individual will lag behind. For instance, with advancing technology and knowledge production, the field of agriculture has changed a lot. It is now possible for a dairy farmer to effectively and profitably raise more than 100 dairy cows on less than one-acre plot of land. This is possible as farmers have gained new technological knowledge on how to increase livestock production through improved alternative feeds [silage, hay, food supplements, etc.], organic farming, and genetic engineering.
 - The manufacturing industry is also experiencing many changes especially with advancing technologies and increased automation. The majority of manual labor workers are losing their jobs except for the very few gifted ones who are rare to find who are having tacit knowledge and competences.
 - The telecommunication industry is also moving from monopoly to competition. Major telecommunication companies (i.e. Uganda Telecommunication Limited, and Uganda Postal Services) are losing the monopoly they enjoyed in the 1970s, 1980s and 1990s—to serious competition from new market entrants—the mobile phone companies such as MTN and Airtel that are exploring many different things—mobile money, short message service (SMS), Internet provisions, and surveillance.
 - The recent technological innovation and digitalization of energy is also taking the hydro-electric power industry to another level. This industry is transforming steadily and may give way for other alternative power solutions such as solar energy, nuclear energy, wind energy, and biomass.
 - The banking industry has moved to another level in terms of coming up with innovative services such as online banking, mobile wallet, electronic money transfer, and online customer support.
 - Current trends are demanding for increased use of digitalized materials and paperless everywhere as opposed to hardcopy materials i.e. e-air tickets, e-applications forms, e-testing and e-results, e-medical prescriptions, and e-interviews.
 - Increasingly institutions are looking for ways of maintaining a remote mode of working, teaching and learning in the post pandemic world, cloud computing technologies and solutions will drive in this new direction [29].
 - Free online courses are on the increase. Virtual online colleges and universities are also increasing in number and are becoming very popular because of their flexible and appealing programs [13].
 - It is now possible to access credible qualifications from world class universities via virtual tools/options without necessarily having to attend physically on campus.
 - Today, there are more open educational resources accessible online compared to those available in all physical libraries combined.
 - Increasingly more college students are opting for part-time online studies as opposed to face-to-face full-time studies. This is likely to be even more intensified post COVID-19 pandemic.
 - Increasingly, parents and their children are becoming less willing and able to spend more on higher education. Technology will improve students learning and likely at a lower cost per student per year than in the current industrial-age paradigm ([22], p. 371)
 - Increasingly more people are preferring to work from home as opposed to working from their office. Many people have actually realized that they can get much more done at home without spending many hours on the road traveling to and from their office. Many companies are now looking for e-generation individuals who are already excited and motivated to work productively from home.
 - It is now possible to virtually attend an international conference without actually having to meet expenses for travel, visa, and accommodation.
 - Many business activities are being and will continue to be accomplished virtually as opposed to face-to-face through zoom meetings and conferences, webinars, online classes and workshops [30].
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Table 1.
Current realities for the need to reposition Africa's HEIs in ICT era.

HEIs must play a central role to enhance this urgently needed capacity building by equipping students with the ability to maneuver/utilize emerging online tools for creating innovative business opportunities. By doing so, HEIs can transform Africa's economies to the extent of surviving both anticipated and unanticipated dynamic globalization challenges and opportunities. However, this cannot be realized if African HEIs continue to deliver the same education and training programs

introduced during the colonial days. Thus, curricula innovation is inevitably needed to prepare a new e-generation of individuals who are endowed with the required ICT literacy skills. This will demand for a paradigm shift in the curricula innovation enterprise in a sense that all these current realities should be integrated into the curricula design.

At least something must be done about the curricula enterprise for HE in Africa especially in terms of ensuring the enhancing human capacity in online and ICT skills. This will require a holistic curricula transformation in HEIs to be able to produce a new e-generation of individuals that are capable of contributing to the needed knowledge production through the use of emerging innovative technologies and cloud computing solutions. It will also be vital to ensure that each student, whoever graduates from any HEIs in Africa should have been oriented in online mobile technologies and applications. This could expand online ICT literacy in all HEIs in Africa. Furthermore, all computer engineering programs should also emphasize cloud computing skills and information security management skills. As such a generation of individuals who are confident, comfortable and enjoy working with these tools will increase. However, this requires students' engagement into activities that promote interactive learning in production and application of knowledge [4].

Increasingly there will be need for shifting the focus from curricula content coverage to ensuring learning. As such, “utilizing effective instructional strategies and designing learning experiences that enable the participants to experience the innovation through attributes of innovations” becomes very critical ([31], p. 22). It is also important to note that innovative teaching and learning is much more than just downloading instructional information/materials. Yet, ‘information alone is instruction’ [32] implying the need for careful scrutiny in selecting appropriate online materials for the students.

Life will never be the same again post COVID-19. The pandemic led to lockdown in all countries around the world and businesses have been closed, public transport is closed, public gatherings prohibited, and educational institutions closed. This has disoriented all people in one way or another and their normal daily activities disrupted. Now people need to think deeper and creatively to be able to survive, yet, the twenty-first century skills are on high demand. These skills could be developed/gained through social interactive learning [33]—enhanced by modern tools and applications.

8. Possibilities for Africa's HEIs to meet the global demands

Many HEIs are faced with serious dilemma of how to go forward with their teaching and learning programs post pandemic. The question of what possibilities HEIs may have to remain vibrant in post pandemic to survive the globalization demands is an important one. However, with advancing ICTs and mobile technologies, many options are now possible.

First, opportunities for remote teaching and learning in institutions can easily be made available and readily possible. For instance, many free tools and apps are already available to enhance online pedagogy (i.e. teaching and learning processes) in higher education. Such tools and apps include but not limited to Google classroom, YouTube, Google docs, Google meet; Google Drive; Facebook, Twitter, Slideshare, LinkedIn; edX, Open Culture, Skillshare, Plural-sight, a Cloud Guru; Scribd, Prezi; Skype; Zoom podcast; Padlet, whats-up group; Edmodo; among others [30, 34].

Of course if these tools are to work well, support for lecturers and students is needed to enable them optimize the benefits associated with these tools in the teaching and learning processes. Therefore, the need exists in the integration of online pedagogies in curricula design for online teaching and learning; such as blending asynchronous and synchronous approaches.

Second, utilization of existing online resources will become the center of focus for majority of institutions. HEIs in Africa may not have to create new wheels when many others are already available. For instance, many top world universities already offer thousands of free online courses that can be used by students and lecturers around the world-some of these universities include: MIT, Stanford University, Harvard University, University of California, Berkeley; University of Toronto; Yale University, New York University (NYU); Georgia Institute of Technology, The Open University in UK, and many others.

Therefore, HEIs in Africa can learn from these world universities without having to develop their own online pedagogy programs. This approach makes a lot of economic sense because the investment that would otherwise be required to develop online programs could be enormous in terms of money, time, and knowledge/expertise needed to complete the task.

Third, mobile phones can be used to enhance access to education opportunities for men and women [2] and fortunately the coverage of mobile phone access has expanded rapidly in Africa and majority of higher education students own their own personal mobile phones, smart phones and ipads [30]. Therefore, it is strategic to capitalize on the use of commonly accessible mobile technologies to enhance teaching and learning. If HEIs are to continue serving the increasing numbers of students incommensurate to available physical infrastructures and shrinking national budgets mobile technologies and cloud computing solutions could be the answer [34]. HEIs need to do better when it comes to optimizing the utilization of emerging mobile technologies and cloud computing as teaching and learning tools if substantive curricula innovation is to happen. ICTs could also provide opportunities for developing collaborative learning between HEIs and local communities [35] beyond geographical boundaries.

Fourth, cultural integration in curricula is vital.

Culture plays a big part in our lives and the way we relate with others. It is therefore imperative to integrate culture into curricula as it orientates the young to important values, norms and way of life in society. For instance “if education is meant to bear on the people’s cultural background and traditional manner of doing things, remarkable academic achievement would be recorded” ([36], p. 5). Therefore, all curricula should rotate around working with the local environments addressing real life problems. This integration process of cultural values and norms could enrich the preparation of individuals for specific occupational skills and may enhance creativity and innovation relevant to the local environment [36].

Nevertheless, designing curricula in higher education is a complex activity [37] and therefore, HEIs are challenged to produce global citizens who can effectively communicate and work harmoniously to fit in the multicultural context. Thus, universities are required to provide global environments through their adjusted curricula. Withstanding that building some robust curricula that is effective in reflecting global environments is not an easy task. The ultimate goal would be to nurture “among students lifelong learning skills and a mindset for critical thinking, effective communication, creativity, curiosity, collaboration, problem-solving, adaptability, principled, and ethical behavior” [8].

Fifth: utilizing existing social networks.

The use of already established networks offers a huge base of social capital to spearhead HEIs in Africa. Drawing on the Social Network Theory which assumes

that the relationship and ties one has in the network determine the kind of resources which one can access [38] given that majority of faculty in Africa have attended and trained from institutions in the north, Asian and Arabian countries potentially represent/hold significant social capital. Therefore, institutions need to invest/tap in the social relationships and networks of their faculty as a strategy through which resources of other institutions can be accessed, borrowed, or leveraged [38]. Through their existing social networks faculty can be able to make valuable connections to identify the needed resources and move forward to form strategic synergies for sharing these resources. In this case the most critical resource may be knowledge. The knowledge resource could take the form, for example, how to develop programs; how to use a computer application, and how to conduct an online assessment. Furthermore, advancing online technologies could actually leapfrog social networking possibilities in HEIs in Africa especially by enabling faculty and students to access international knowledge (journals, papers, databases, courses, presentations) as well as collaborate with peers worldwide [17]. Indeed, “increasing levels of collaboration and collective planning and strategic decision making across institutions creates new spaces and opportunities for peer to peer learning and fosters new innovations and models for the future of cybersecurity practice in higher education” ([29], p. 29).

Sixth: digitization of curriculum content and regulatory ICT policies [39] to facilitate easy access of materials for increasing numbers of students and faculty. Thus, the digitized content could be deposited into a central pool where all university students and teachers can easily access it. Nonetheless, caution must be taken to deal with issues regarding digital information security threats, a subject beyond this chapter [33].

Seventh: integration of indigenous education in HE.

The indigenous education curricula’s focus was/should be on preparing the young to deal with real needs of society and the relevancy of what was being taught [40]. HEIs in Africa have a lot to learn from indigenous education curricula. In Africa, the need to introduce and embrace localized curricula is extremely critical and cannot be underscored. HEIs should focus on localized curricula that target and fully integrate the needs of society. Truly, “HEIs have a core mandate to establish close links with and serve local and national needs as well as society at large” ([2], p. xiii). In essence, therefore, HEIs must respond to the local market demands/needs by offering relevant curricula and educational programs [41] that speak directly to local cultural demands to avoid industrial and economic developments that are divorced to local societal needs. Yet, this is the main essence and core value of indigenous education curricula. Needless to say “curriculum is at the heart of HE and as such, transformation must focus on what is taught what is learned and what is relevant to the teaching and learning to society” ([42], p. 13).

Eighth: participation and involvement of students in curricula issues.

Students’ involvement in curricula activities is needed to optimize their meaning and real learning opportunities. Indeed, with online tools the universities are losing control over the teaching, research and learning activities [43] and time is now for students to drive their own learning. Learners’ ability to construct their own knowledge and experiences through their free interaction with ICT trends show that students’ ownership of devices is rapidly increasing in some countries and that reliance on institutional equipment, often poorly managed, is also decreasing ([44], p. 851). Clearly, the institutional dynamics are changing where students and teachers are now in position to determine what to do/educational path.

Ninth: effective instructional strategies.

The best way to assist someone to enable him/her deeply learn is by doing. Therefore, effective instructional strategies are required to solicit and encourage

students' active engagement. These include, service learning, collaborative learning, active engagement, and problem solving activities. As such, African countries should ensure that students are afforded the opportunity to be part of the new and exciting global world with blended and value-adding ICT applications by giving them opportunities of doing/acting through their participation/involvement ([45], p. 984). This challenges the current curricula being offered by HEIs in Africa, regarding its relevance and innovativeness. Generally, most curricula are more theoretical oriented as opposed to practical/hands-on.

Tenth: 'Necessity is the mother of invention' [Plato] or innovation. During the post pandemic, there will be need for people to look for better innovative ways of surviving that are divorced from the traditional means with standard operating procedures (SOPs) in place. For example, people may engage in online businesses startups, e-marketing, e-medicine, e-spare parts, e-foods, e-transport, home-based business and factory/industry, etc. given the available cloud computing applications such as YouTube, Google go, Chrome, Google app, etc. Many young people can also gain a broad range of valuable ideas and skills in gardening, sawing, landscaping, carpentry, homemaking, engineering, camping and survival skills from online resources. As such, young people have so much to learn and gain from online virtual environments through interactive engagements with resources/materials, peers, and teachers. Interestingly, the majority of young people do not only enjoy but are motivated to use these tools confidently and comfortably.

9. Curriculum innovation

What comes out clearly from ongoing discussion in this chapter is that, we learn by doing. This implies that any curricula innovation and reform should be responsive to current demand of society. For instance, in preparation of a generation to spur the knowledge production the curricula must be responsive to these demands of the technological innovation. If young people are to organically become creative and innovative, they should exploit online advancing mobile technologies for knowledge production and national economic development. This preparation has to start from curricula experiences and the training they receive.

Curricula innovation in higher education in Africa will take a new direction. "Not only instructional formats will need to change, but degree programs and course content will too.... Higher education will increasingly move from knowledge acquisition to skills development, with a shift toward inter and multidisciplinary" [46]. The motivation is to produce graduates who are multi-skilled and multidisciplinary [46]. Attention is needed to promote a holistic and innovative curricula that impacts the job skills of the twenty-first century [8], yet, the current curricula and delivery method are too theoretical and utilize outdated skills [17] for twenty-first century higher education.

Similarly, Africa cannot expect different results without making substantial adjustments in the quality of education and training experiences available to its youth and without actually interrogating the curricula content being offered, how it is delivered, and how it is being assessed. Thus, the curricula business success will also depend on ensuring that HEIs are capable of glooming and nurturing highly skilled individuals that are endowed with transferable twenty-first century skills who will be able to support Africa's economies [12]. Therefore, there is also need for implementing curricula innovation in order to meet the twenty-first century skills through enhanced interactive learning [18].

Tracer studies in Africa indicate that many graduates of professional courses do not actually practice their professions. For instance, Makerere University SIDA/SEREC

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- What subject content to be included or discarded?
 - What current realities to be integrated into the curricula?
 - What approaches to focus on i.e. disciplinary, transdisciplinary, multidisciplinary?
 - What instructional/pedagogical strategies to be used?
 - What assessment strategies to be used?
 - What cultural identity/values/norms for integration?
 - What indigenous knowledge could be integrated?
 - What resources are locally accessible?
 - What social networks opportunities are available for resource mobilization?
 - What ICT gadgets are commonly used and readily available for students' cohorts in HEIs?
 - What best practices for curricula integration of online tools and pedagogies for students and faculty?
 - How to motivate students and faculty for online teaching and learning?
 - What best practices of advocating for blended teaching and learning?
-

Table 2.
Possible questions to guide curricula innovation.

study revealed that majority of the graduating veterinary doctors from the university do not actually practice veterinary medicine or engage in active animal farming activities, but rather end up in other business sectors, i.e. pharmacy, car dealers, real estates, among others. The overarching question is that why are such highly trained people opting not to engage with their professions after graduation? Yet, Makerere University offers some of the top/best Agriculture and Veterinary programs in Africa. There is need to interrogate the curricula of these programs in terms of their content, innovativeness in delivery, and assessment. This may also apply to almost all other courses and professions for HEIs in Africa.

Table 2 shows the keys to guide the curricula innovation and addressing such questions could inform the curricula design process.

These questions may aid the process of undertaking curricula renovation process on issues which are highly complex, embedded and interlinked as reflected in **Figure 1**. We envisage the need to work towards developing a general curricula design framework that identifies the various factors and drivers that are essential to sustain important curricula innovation within the globalization context. Numerous curricula design models on contemporary higher education can be consulted [37, 47].

10. Makerere University as case studies

The College of Education and External Studies (CEES) is one of the nine colleges at Makerere University. CEES conducted a needs assessment survey on preparedness for online teaching and learning. The Faculty whose courses were taught or were being taught online were invited to participate in study via CEES' staff WhatsApp platform. The information was gathered during the second week of July 2021 for those courses that had been taught online for semester two of academic year 2020/2021 during the Covid-19 pandemic. Here we report data for both challenges and coping strategies during online teaching and learning presented in **Tables 3** and **4** respectively.

What comes out clearly from **Table 3** shows that most of the challenges faced by MUK faculty in online teaching and learning were consistent with the barriers highlighted in literature [48]. However, lack of skills in online learning and

-
- Students' skills and culture in technology is still wanting. They do not have any prior training in use and adoption of ICT in their pedagogy.
 - Majority of students do not have the devices to engage in online learning. Lack of devices including laptops and smart phones, for accessing lessons. Some students would come to campus so as to share laptops for zoom lessons, [this makes many students become more vulnerable to Covid 19].
 - Unstable Internet i.e. School of Education Internet went off for almost one month. Unreliable Internet could shut off many students.
 - Large classes up to 800 students tried to join any session at their convenience.
 - Giving tests or quizzes for such a large class was very problematic.
 - Teaching huge numbers and multiple groups online has salient challenges of control and pedagogical management leading to uneasiness.
 - Some students rioted over Makerere University Electronic Learning Environment (MUELE) usage. Why? Because of haphazard online implementation of the same with no clear support systems.
 - Lack of training and orientation in online learning especially how to use MUELE combined with poor digital skills of students. No provision for technical support for both staff and students for technology challenges faced while using MUELE.
 - Unstable Internet connection. Power going off during class. Some learners complaining about their data.
 - Poor attendance, only 80–100 students attending out of 900 students. Students attended face to face meetings more than online.
 - Zoom worked a bit better but students had serious connectivity issues and kept dropping off.
 - Less motivation of students because of less interactions with online learning since students have to be muted.
 - Most of staff gadgets are outdated only fit for word processing, emails.
 - Very poor time management on part of students due to many home distractions.
 - Students yelling deliberately disrupting the lecture.
 - Students complain of having no data. Data costs were mentioned as high and most students were not aware of how the zero rates thing works on MUELE.
 - No contact information [i.e. emails, phones, Facebook, WhatsApp, etc.] to connect with learners.
 - Some students turned up to do exams and claimed that they were not aware of online teaching.
 - MUELE is too overloaded, too slow, all the time the sessions crashed.
 - Lack of staff and students' confidence in using MUELE and zoom.
-

Table 3.
Challenges encountered during online teaching and learning.

pedagogies for both faculty and students, negative attitudes about online learning, connectivity issues and lack of gadgets suitable for online learning stood to be very critical. Digital divide also remains to be a serious concern [33]. As such numerous technical problems arose and the need for support in online learning is urgently required without compromising the educational experiences for students [33]. In addition, digital divide may continue to exist [30] and yet, it negatively impacts on the teaching and learning experiences [49] as well as extends inequalities in higher education access [17, 50].

Table 4 shows share responses for faculty regarding the coping strategies for online teaching and learning. They shared their insights into what they thought could be done to make online teaching and learning successful.

Clearly, **Table 4** reveals that faculty see the need for technical support for both faculty and students as being vital. The support should focus on promoting skills in online pedagogies for both faculty and students. The need to motivate and encourage positive attitudes about online learning cannot be underscored. It is also crucial to university management to deal with connectivity and digital divide issues for both faculty and students. However, **Table 5** shows recommended action points for

- Train students in usage of online learning resources.
 - Train students in MUELE and zoom sessions and how they operate.
 - Ensure that zero rating works on MUELE.
 - Provide needy students with devices and data.
 - Identify and support struggling students.
 - Need to train students in designing and facilitating online learning.
 - MUELE should be used as just a platform for posting study materials and emphasize zoom.
 - Need to emphasize attendance or even take attendance record. Encourage also use of a chat channel.
 - Try multiple Internet network providers.
 - Staff to be helped by the university to access unlimited zoom versions.
 - Encourage learners to have a to-do list and to keep time for online sessions.
 - The university should increase the bandwidth to accommodate the increasing numbers of online courses hence more users.
 - With orientation training and support, MUELE can be used for interactive and collaborative learning activities like discussion, forums, reflection on the blogs and journals.
 - Uploading of multimedia materials accompanied by tasks which enable deep learning to reinforce live sessions using zoom.
 - MUELE should not just act as a depository for materials but let us use it as a learning space, where we provide feedback and support to students, where students interact and collaborate with peers, etc.
 - Both students and staff need ongoing technical support for both MUELE and zoom so IODEL and other units should dedicate staff to provide this support.
 - Need to capture and regularly update students so that when it requires to get to each individual student, it is possible.
 - Motivate our students towards online teaching and learning.
 - Help students maintain focus and create a sense of community.
 - Make discussions meaningful.
 - Increase students' engagement.
 - Address equity issues in terms of Internet access, gadgets, and all other forms of online infrastructure especially for the impaired students.
 - Need to upgrade staff gadgets for newer versions that can handle effectively online teaching and learning.
 - Need to build confidence of staff in online teaching and learning.
-

Table 4.
Coping strategies for online teaching and learning.

institutional leaders and managers in their efforts to embrace online teaching and learning. We find these action points ideal in providing a starting point for all HEIs wanting to embark on the online teaching and learning journey.

The action point presented in **Table 5** are consistent with our understanding of what we perceive to be new possibilities to online teaching and learning. However, African nations can also take a leaf from Senegal as a step to embrace online teaching and learning. In Senegal, each student in higher education is given a laptop subsidized by the government and is paid for by the student in installments within a period of 12 months. Furthermore, the government has taken the lead in providing connectivity to HEIs. With increased connectivity, the Ministry signed an agreement with Elsevier and other publishers to provide access to journals and databases. Other initiatives of the government which leverage broadband connectivity, include establishment of the Senegal Virtual University, the Knowledge City and Technology Park. Internet access is free for students in all public universities [17].

-
- Use the most widely used and existing technology and resources available locally: mobile first, public cloud to scale quickly, international content to fill in.
 - Set up a one stop space as an entry to various resources: most universities using their learning management system (LMS) as central platforms- for advice, communications, teaching, learning, support etc. integrating other technologies in the LMS i.e. video conferencing.
 - Focus on curating existing (open) content rather than developing content: developing good content takes time and expertise. Instead, focus on existing local and international (open education resources) content and align these to your curriculum.
 - Provide regular guidance and support to students and teachers is fundamental: set up virtual help-desk and providing pro-active tips and regular communications.
-

Adopted from World Bank [16].

Table 5.
Action points for leaders in short- and medium terms.

11. Discussion and conclusions

What comes out clearly from this work is that where we have reached there is no point of return. Globalization, knowledge based economy, and the pandemic are all here to stay. HEIs must take a mantle to boldly address human development and social, cultural, health and governance issues as required [2]. The role of HE in providing relevant skills, technical and entrepreneurial trainings that are on demand, as well as those relevant in developing and promoting technological innovations is critical [12]. The demand for new knowledge and educational opportunities will not only continue to grow but will be a passport to economic survival in Africa. With declining government spending towards higher education, HEIs must develop alternative affordable options to support high quality education for diverse student populations [13]. Blended learning in higher education in Africa will become the order of the day. With advancing ICT technologies, mobile and cloud computing solutions are capable of rendering higher education affordable [34] for the increasing number of students who could not otherwise have been able to access it before.

These ICT technologies especially mobile technologies could easily make education more flexible and accessible in many amazing and unlimited ways [25].

Currently, curricula innovation in HE has become the order of the day especially being able to deliver education amidst the COVID-19 pandemic. HEIs are increasingly challenged to focus on the curricula integration promote/stimulate knowledge production, creativity and innovation of higher level skills that may be more important in the globalized knowledge economy. Interestingly, more students and teachers are now not only beginning to appreciate online teaching and learning but are becoming more comfortable and confident with it [20]. The need to upgrade online infrastructure to meet the changing demographics of students, curricula and pedagogical demands of the twenty-first century HE [8] cannot be underscored. Additionally, embracing pedagogical changes in terms of curricula design and delivery that involves students as active participants in the learning process rather than passive consumers [8] is the way to go.

This will be vital especially during the pandemic and post pandemic era where online learning/virtual learning environment has become part of our daily lives. Indeed, African nations cannot continue to drag their feet by their failure to do what the rest of the world are doing as far as making available quality and equitable education opportunities to all college going cohorts.

Unfortunately, millions of college students in Africa are at home out of school due to the pandemic lockdown. However, their counterparts in the developed countries are accessing quality educational experiences through virtual/remote learning

environments. Tough decisions have to be made for Africa to become innovative in terms of building capacity for their citizens. Given that the quality of any nation/ country cannot surpass the quality of its citizens.


The future of Africa’s HEIs will depend on improved collaboration, networking, and information sharing. Indeed, advancing online mobile technologies and cloud computing facilities could enable Africa’s HEIs to develop communities of practice [35] and embrace the ‘new normal’ for the knowledge production and economic growth. This chapter has emphasized curricula innovation effort that are current realities’ driven if these reforms are to make a difference. However, further research is needed on how to carry out curricula design intended to integrate current realities associated with the New Normal to meet the demands of the globalized knowledge society. Further research should generate innovative curricula design frameworks to guide future curricula innovation interventions and processes that target technological knowledge production and innovation.

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Higher Education in India: New Educational Policy – 2020 and Educational Issues in the Post-COVID-19 Pandemic

Suwa Lal Jangu

Abstract

The Indian higher education system is one of the largest systems in the world. India has seen a big development in the higher education sector as enrolment and the numbers of higher educational institutions have increased almost four-time in the last two decades. Service economies in developed countries tend to have a great demand for higher education. India contributes to the global workforce is only marginal. Education produces social justice in the future as well as being a benefit to young people in the present. Education suggests that the power of intellectual curiosity and the love of learning were equally strong motives as the need for a social leader. The recent NEP 2020 seeks equity and inclusion through education. Online education used to be an outlier until the Covid-19 pandemic placed it at center stage. The story of India education system is obsessed with examinations and grades. With no financial support to build new facilities or open new universities, enrolling students online seems the logical solution to boost capacity. The growing demand for admission in higher educational institutions in India coupled with the inadequacy of public expenditure on the same sector.

Keywords: new education policy, higher education, Indian education system, digitalization and public expenditure

1. Introduction

The Indian higher education system is one of the largest systems in the world. India has seen a massive expansion in the higher education sector as enrolment and the numbers of HEIs have increased almost four-time since 2001. This increase was because of primarily driven by the privately owned institution. Indian higher education system is a mass system where higher education is seen as a right for those who have certain formal qualifications. It is said that higher education is dependent on the level of income and the occupational structure of the economy.

Service economies in developed countries tend to have a great demand for higher education. India contributes to the global workforce is only marginal. Knowledge has always been a distinguishing characteristic of human beings in view of their unique capacity to formulate and continuously transmit knowledge from one generation and location to another. Research has always been an important part of a

university's function in India. In addition to their role in imparting knowledge, the establishment of universities as centers for the production of knowledge.

Education is a means of progressivism that is well discussed by Rousseau's Emile. Rousseau's educational ideas no longer seem radical to a modern student and teacher. Wollstonecraft wanted education to produce social justice in the future as well as being a benefit to young people in the present. The true objective of social justice is to establish a perfect society. According to Wollstonecraft, social justice is always in the making, and necessarily responsive to changing conditions that come from the result of a struggle for social justice ([1], p. 343).

Rousseau argues that education could lead to a more socially just society. Further, he seeks to change contemporary educational practices so that it would be possible to create a more socially just society. The teacher is never to demand obedience either through force or reason. Teacher makes sure the boy's education is one of 'well-regulated freedom. Social justice must integrate into an understanding of education– of living a good life together with each other and treating others equally ([1], p. 344).

In an era when classical education was prominent among British elites and defined the civilized person, they found Indian civilization to be the equal of western civilizations. Education suggests that the power of intellectual curiosity and the love of learning were equally strong motives as the need for a social leader. Accomplishments in science and technology and the capacity to use them in benign and productive ways seemed to prove that humans could master and harness nature and direct and control social change ([2], p. 80).

2. National Education Policy-2020

The National Education Policy (NEP) 1968 and 1986 envisaged equity in educational opportunities. The NEP 1968 emphasized on restructuring the educational system, NEP 1986 stressed on the removal of disparities. The recent NEP 2020 seeks to equity and inclusion through education. The new National Education Policy, which entered into effect in July 2020, is referred as a big set of reforms mentions about higher education institutions: "All higher education institutions – public and private – shall be treated within this regulatory regime" and that "private philanthropic efforts in education should be encouraged." The government aims at restructuring the scattered Indian higher education system by transforming higher education institutions into large multidisciplinary universities. The law also sets ambitious goals for the internationalization of universities, focus on digital infrastructure, professional education, modernization of pedagogy, and multidisciplinary education but the 2021 Education budget was 6 percent less than in 2020 [3].

India's, New Education Policy (NEP) 2020 proposes many changes in higher education. Among them, one is the introduction of the four-year undergraduate program from next year. India's largest University, Delhi University has approved it. If it implemented in letter and spirit, the NEP can change the classroom experience. Higher education in India use to produce disciplinary experts but the NEP 2020 aims to change disciplinary limitations. B.Tech students now will study a couple of subjects of social sciences to their engineering branch. Thus, engineering degree programs will offer some courses of arts and humanities. Similarly, students of social sciences will study more science subjects. Therefore, all degree programs will incorporate vocational subjects and soft skills development.

IIT-Bombay's new Liberal Arts, Science and Engineering (LASE) Program has become a model of bringing the NEP's vision on the ground. The LASE model was introduced that gives students the choice to graduate with a UG degree in five

subjects or “course” – design, physical and natural sciences, arts and humanities, social sciences, and engineering sciences. In the final year of the degree program, students are allowed to choose their own combination of subjects for the degree. LASE entrees will study a combination of basic courses in the second year of the degree as modern south Asia, history of science, digital societies, social system, cultural and linguistic literature, apart from their STEM course. Moreover, the NEP 2020 will reduce the role of teachers and weaken the connection between the teacher and the taught [4].

While the education sector took a massive setback because of the pandemic, the Union Government has failed to provide leadership in responding to issues faced by students and teachers. No surveys were conducted by the Ministry of Education among students and teachers, no concrete initiatives were taken to address the increasing inequality and unfair which ruined the learning experience of a large section of students. The NEP 2020 too was passed through Cabinet on 29 July 2020 without a serious discussion on its implications. On September 4, 2021, without going through proper consultation with stakeholders in HEIs, the heads of institutions pushed the NEP implementation in their respective units [5].

New numbers of both UG and PG courses are being introduced in the HEIs without looking at the mandate with which the HEIs were set up or even the possibility of expansion or infrastructure needs. The vision of NEP 2020 is to achieve the gross enrollment ratio (GER) to 50 percent by 2030 but without increasing public spending. In fact, policies such as the SWAYAM Regulations 2021, Academic Bank of Credits (ABC) Regulations 2021, and Blended mode of Learning (BL) will reduce regular streams to semi-regular ones [5].

These new regulations undermine the autonomy of the HEIs intend to reduce the role of teachers and universities by reducing association with students. The UGC concept note on the blended mode of learning treats students as customers using fancy words like “pick teachers and timings”, “frame your course”, “design your degree”, “student-centric” and many more such words. Indeed, these new measures are aimed at reducing expenditure towards public-funded higher education in the grab of “students’ choice”. Ultimately these new initiatives in the name of educational reforms will affect the students from marginalized communities [6].

While multidisciplinary is the final destination, the four-year UG course suggested in the NEP document is a means to that end. The new policy suggests modifying the duration of the degree program to allow students to get knowledge of holistic and multidisciplinary education. The NEP also emphasizes on the chosen major and minors subject by students as per their choice. The NEP states that the four-year multidisciplinary UG’s program shall be the preferred option. The detail of the four-year bachelor program is mentioned under the NEP 2020 as while students pursuing UG program will be studying one more year but with an option to leave before that with appropriate certification. Leaving after the first-year students will earn a certificate, after second year a diploma, and after the third year an undergraduate degree. Completing the entire program or all four years students would be eligible for awarding a UG degree with eligible for research degree if the student completes a fundamental research project in any major subject during four-year.

India’s largest university “Delhi University” is set to be the first higher education institution to implement the NEP 2020. The Academic Bank of Credit (ABC) proposed by the NEP is where higher education institutions (HEIs) will digitally deposit credits earned by students for the course they studied. From 2022 onward, DU students can opt for either a three-year honors program, or a four-year honors program, or a four-year honor program with research. They can also exit with appropriate certification. The ABC is expected to aid the multiple entries and exit system as well as multidisciplinary in higher education. A student on the basis of

the ABC can move laterally from one higher education institution to another if needed. Designating credits to each course would also mean that course or project in an area would carry weight. The NEP would go a long way in the attainment of holistic and multidisciplinary education [7].

The Government of India wants to promote Indian languages, arts, and culture through education and the NEP 2020 emphasizes the same. The higher educational institution adopt the regional language or mother language and the local dialect is the medium of instruction in teachings. The NEP 2020 states will help increase the gross enrolment ratio (GER) in higher education as students who are not proficient in English will be encouraged to pursue further studies in regional languages. The NEP 2020 proposes a single university entrance exam conducted by the National Testing Agency [8].

Students will not have to appear for multiple entrance tests. But the NTA will use “multiple-choice questions” mode of question pattern for each and every exam. Students may have a different opinion on the MCQs based question pattern because this mode of question pattern may be advantageous for some students while other some students it may be most disadvantageous. Some students are good at writing a text while some other students are good at choosing the best options among given questions in their respective exam [8].

2.1 Digitalization of education

Online education used to be an outlier until the Covid-19 pandemic placed it at center stage. Pandemic brought a moment “to create the things we have been fighting our asses off for”. Only one-third of older high-school goers in India felt “engaged” by their online classes. Compulsory education school closures have underlined the importance of in-person schooling to children’s mental and physical health. Not all but some children who have met online learning to seem less mature in their behavior and attitudes than might be expected. The effect of educational institution closures and the lockdown in response to the Covid-19 pandemic has been trying for all, but it has been extremely harsh to the students and the families belonging to the most socially and economically disadvantaged communities especially backward and Dalit sections of Indian society [9].

Because of the Covid-19 pandemic, government schools have had to incorporate digital learning, a challenge as only 28 percent of government schools in 2018–2019 had computers and only 12 percent had an internet connection. Online education is a disadvantage for the students and families of backward communities in rural areas. Learning Management System – LMS is driven by artificial intelligent – AI, supports the delivery of online learning, and acts as a platform for online content and courses. However, problems of lack of adequate financial resources, the digital gap between rural and urban areas, lack of social justice approach in the market and private forces in the online education system. The true role of education in social development is that it must match with educational development. Education to all cannot be well-served by a one-size-fits-all approach in a socially diverse country. Covid-19 and the closing of educational buildings forced teachers to shift to remote learning in a matter of days, cobbling together online teaching platforms out of business tools ([10], p. 8).

2.2 Social structure and status of Indian higher education

The story of the India education system is obsessed with examinations and grades. During the peak of the second wave of coronavirus, Indian higher education institutions were forcing their students to write examinations and assignments. The examination system in India has always been an exclusionary and discriminatory

mode of assessment. The higher education institution in India reveals that students belonging to marginalized groups especially Scheduled Caste, Scheduled Tribes, Sexual and Religious minorities experience an extreme levels of systematic discrimination. The systematic marginalization of these groups is ingrained in the very manner in which these institutions are designed.

The classroom discussions in higher education institutions are completely inhospitable for people who have completed their earlier education in vernacular languages from state university affiliated colleges and government schools. The vocabulary that is used during lectures and subsequent discussions in the classroom makes them passive recipients of huge bulky terms with no meaning whatsoever. Several students of the Union government's educational institutions who come from vernacular backgrounds have repeatedly complained that they feel neglected, marginalized, and even unacknowledged both by the institutions and students around.

Most of the Union governments' higher educational institutions have the same yardstick for measuring the learning of different students; it defeats its own purpose. The same yardstick cannot be effectively used to measure the learning outcome of a male student coming from a higher caste family living in a metropolitan and of a female student coming from a low-class lower caste family located at the countryside. India's higher institutions do not recognize and rectify the inherent inequality within their structures. In a country marked by huge caste, class, and gender inequalities, making the English language, or the academic style of writing or the beautifully carved presentations as standards of learning and grading does make no sense.

The English language is still a monopoly of upper-caste elite groups. It is atrocious on the part of educational institutions to demand flawless speeches and presentations embedded with flowery words and phrases from students who have been historically marginalized for centuries. These students belonging to these groups for the most part of their live remain low on their self-confidence because of the kind of oppression they had to face for years. In Indian educational system, no knowledge, experience, and learning but language and socio-economic privilege are the "standards" that decide the merit of students. India is a country where grades and percentages decide the social status of families within society.

The SC, ST, OBC, and minority communities historically oppressed groups are "shown their position" in society under the farce rhetoric of merit. The socio-economic status and history of marginalized communities is a decisive factor of their "unfit" for this education system which has been designed essentially for the elites. Education is an end in itself; it is also a means through which historically marginalized groups seek their emancipation from age-old shackles of exploitation and discrimination. The biased education system in India only favors the privileged but also cruelly throws others out because they do not "fit in" its standards. Education and acquiring knowledge is a cooperative venture and not a competitive one [11].

All 23 Indian Institutes of Technology (IITs) are violating the Union government's reservation policy in admission to research programs and appointment of teachers. As under the reservation quota policy (affirmative policy measures mentioned under the fundamental rights in the Indian constitution), seats and posts in IHE institutions those funded by the Central government must be reserved for the under-represented communities – 15 percent seats or posts for SC, 7.5 percent for ST and 27 percent for OBCs. Therefore, the IITs' appointment and admission systems are unconstitutional, illegal, and arbitrary because not implement the quota system by these. Even many IITs do not adopt any fair and free mechanism in either faculty appointment or in admission for research programs. They give priority to candidates from certain castes and classes in both recruitment and admission.

During 2015–2020, the IITs had admitted candidates from SC, ST, and OBCs communities in number far less than what the quota policy requires. Only 9.1 percent

of admissions were from SC, 2.1 percent from ST, and 23.2 percent from OBC under the PhD program, which is less than the percentage of seats given to them. The HEIs must be diverse in composition in both students and teachers as social diversity, geographical diversity, and research diversity. IITs and CUs have inadequate diversity representation as a regional imbalance in faculty recruitment. There is a lack of transparency and favoritism-based appointment systems in IITs ([12], p. 4).

In November 2019, the Union government extended the quota of SC, ST, and OBC to all faculty positions in all study-branches across 23 IITs but the IITs have been deeply reluctant. IITs are waiting to get an exemption which will give them free hand in selecting faculty and PhD scholars and bury the discrimination done in past. These institutions want to include in the list of institutions of excellence (IoEs). As per the CEI Act 2019, IoEs, research institutions, institutions of national and strategic importance and minority institutions are exempt from reservation ([12], p. 5).

2.3 Privatization and elite nature

India has thousands of higher educational institutions including private colleges and universities. But only few of institutions have the campus facilities and resources to admit 50 percent of new students over the next 15 years. With no financial support to establish new facilities and arrange resources to open a new campus, in that scenario, admitting new students online looks like the logical solution to the shortage. But few institutions have staff who have experience in running online courses, and that's why, both the public and private institutions are approaching the market players of digital education service providers. They are eyeing the digital education market that India's higher education offers. The government of India is for the first to allow universities to offer fully online degrees – a change that could reshape the education service sector in India while blowing open the door to a previously limited market for US-based online education services companies as *Coursera* and *edX*. The government's policy on online education is still limited. Only the top 100 institutions in India's National Institutional Ranking Framework can apply to offer fully online degrees, and subject areas are restricted [13].

The NEP 2020 highlights the significance role of digital education could play in reforming India's higher education sector and increasing access to higher education. The NEP 2020 promotes Indian universities and colleges not only to develop their own online degree programs but also to recognize and award credit for online degree programs offered by abroad universities. The policy seeks that foreign universities may be allowed to open their campuses in India – something the country has been opposing since long time. The rise of private universities is a context of public under-funding and the need for more campuses. But this transformation is not without consequences in form of academic quality, socio-economic inclusiveness of students, and academic freedom. India's public higher education system is not capable of absorbing all the new students. Investors identified the need for young Indians to acquire higher education, and the market of private institutions followed rapidly. However, looking at the high numbers of Indian leaving the country to study abroad because they cannot find a university suited to their needs in India. The consequences of the rise of private higher education in India should be nuanced.

The shady sides of India's private higher education industry are unethical business practices, low insertion of the graduates on the job markets among other issues are a reality that clearly advocate for better control and quality norms from the Indian government. The private status allows them much more flexibility than their public counterparts which abide by the bureaucratic rules of the University Grant Commission – the authority coordinating and determining standards of

higher education in India. India's private higher educational institutions in a deeply unequal society like India's, public universities have to respect the quotas of the "reservation system". Presently, the reservation system appears to be the only means for people from the lower castes to get admission to the same education as upper-castes Indians.

In private higher educational institutions, on other hand, the reservation rules are not an application. Private and public colleges and universities may or may not have an internal financial support program, and if they have such policy, social diversity representation is far from being available for students who come from the lower castes remain underrepresented. The status of private universities can be perceived as rampant against an intrusive government, compared to a public sector more acquiescent to politics. In India, public universities, political nominations of vice-chancellors are frequent. Private universities are also not protected from political pressure. The donors of private universities are business owners, they need the government to rule in favor of their companies' activities and hence do not want to take the risk of shooting themselves in the foot.

2.4 Public expenditure and dropouts

In terms of enrolment, India is second only to China (41.8 million) with 35.9 million students currently enrolled in universities and colleges. India has 35 million students enrolled in higher education contributing to a small gross enrollment ratio (GER) percent. China has a much higher GER of 51.6 percent. India has set the target of 50 percent GER achieving by 2035 as also emphasized in the New Educational Policy (NEP) 2020. Currently, around 25 percent of students studying from high school enroll in higher education institutions. The Indian government wants that this number must touch 50 percent by 2035 – it means increasing two times the country's college and university enrollment from its current figure. The present figure of enrollment in higher education is around 35 million students. This target could be achieved if the Government of India spends six percent of the country's GDP on education ([14], p. 11–13).

The growing demand for admission in higher educational institutions in India coupled with the inadequacy of public expenditure on the same sector. The students' protests demand that education must be accessible to all and must not be only for the rich and urban seekers. The student's learning outcomes in India gradually declined during 2006–2016. This is happened despite an increase in budgetary expenditure on overall education, from Rs. 3.6 lakh crore to 4.6 lakh crore over the last decade. India is ranked 62nd in terms of total public expenditure on education as per student and measures of the quality of education (student-teacher ratio in schools). India spent three percent of its total GDP on education in 2018–2019 or about 5.6 billion rupees [15].

The expansion of the higher education sector in India was funded by individual families. The individual family includes the household as a family of students and loans mainly include banks' loans. There is a lack of adequate data about the financial support as loans to students in the higher education sector funded by individual families. Only eight percent of all enrolled students in higher education institutions during 2013–2014 were funded by individual families. Therefore, it exceeded the gross public expenditure on higher education. In India, student fees are the single biggest source of funding in the higher education sector. In fact, private colleges and universities which do not get public financial assistance are funded almost entirely by student fees ([14], p. 48).

Insufficiency of public expenditure on education especially in the context of growing demand for education resulted in growth in private investment in education.

It has far-reaching implications for the affordability and accessibility of education in socio-educationally backward communities. Several studies observed that India is spending on education around 6.5 percent of GDP (4 percent spent by the public sector and 2.5 percent spent by the private sector). Most of the private sector's expenditure goes to students of the privileged communities while students of marginalized communities are almost out from the private sector-based education [16].

India needs to spend six percent of its GDP on education, every national education policy (NEP) since 1968 has said. In 2019–2020, 52 years since that recommendation, India spent only 3.1 percent of its GDP on education. One of the results of this underspending on public education is that over one hundred thousand schools are run by single-teacher in India. Over one million government schools, where 52 percent of India's nearly 248 million students study, have remained poorly funded. This is among the reasons why learning outcomes in India have been so poor. The bulk of funds for government schools come from the state government. The central government contributes partially to programs such as those for teacher training and mid-day meals. States contribute the most of education funds in India [17].

In 2019–2020, the Central Government allocated Rs. 6.43 lakh crore (\$88 billion) of public funds for education. The center accounts for 15 percent of education spending. The rest came from the states and Union Territories. All the areas are underfunded in Indian education. The entire education budget money is very small and stagnant for years. Teacher salaries make up the biggest share of education expenditure across states and states do not have the fund to recruit more teachers to fill vacant posts. Most of the schools in areas inhabited by socially backward communities are run by single-teacher and in the poor building. The little fund allocated for teacher training that resulted in poor classroom pedagogy and learning. Learning outcomes in India have been poor for years [17].

Today, students and people from marginalized sections are taking to the streets demanding more budgetary allocation for education. India has a big problem of a high dropout rate in higher education. According to a survey conducted by the National Statistical Office (NSO) of the Indian government, one out of every eight students enrolled in a school or college drops out before completing their education, and over 62 percent of all dropouts occur at the school level and almost 63 percent of all dropouts occur in high school. Rajendra Singh (president of the Independent English Schools' Association in Maharashtra) says, "Parents do not prioritize girls in education." Further he says, "When parents are in a financial bind, girls are often pushed to the back of the line when it comes to schooling" [18].

The dropout rate in marginalized communities is higher than in privileged communities and it is also higher in rural India than urban areas. Two major reasons for dropping out of school in backward communities are labor migration and financial poverty. The more dropout rate in government schools comes from children of socio-educational backward communities. There are a shortage of good math and English teachers both in private and public schools, especially in rural areas. The dropout rate trend is seen in professional education programs, especially graduate students of socio-educational backward communities [18].

2.5 Social equality and social justice

India's HEIs use to display their immense cultural power in the educational life of students coming from marginalized communities. The government and political forces create such conditions that forcefully shape the academic life of elite educational institutions. The entry of students from socially marginalized communities into India's HEIs has been made possible by the use of political force in the form of the Mandal Commission report. Upper-caste-controlled academics understand

that it is not in the nature of higher educational institutions to open themselves for lower-caste people. The entry of the SC-OBC as students and teachers into HEIs has been triggered off the demand for social diversity and not a monopoly in the area of production and creation of knowledge.

There is inadequate representation of students from reserved categories in the abroad scholarship/fellowship programs. Applicants of marginalized communities are rarely to be selected because India-based facilitators have social prejudice towards the students of reserved categories. There is also caste-based discrimination with reserved categories candidates in interviews for the top positions as Indian Civil Services are being conducted by the Union Public Service Commission, Government of India. They score high marks in the written exams but less marks are given to them in interviews.

The demand for diversity is required for breaking of upper-caste people's control over the higher education spaces. The elite and upper-caste aristocratic monopoly in the HEIs have been creating and maintaining the social distance for long time. This social distance character of knowledge production in elite HEIs is a Brahminical quest for knowledge. Students and teachers from the SC and OBC communities' experiences of social distancing and disaffection in the Upper-caste controlled the HEIs. Students and teachers from socially marginalized communities are underrepresented and face discrimination on the basis of their identity in the higher education spaces. The higher education institutions are not only dominated by upper castes but that they display a Brahminical form of space that disallows lower castes' spaces and minds to share and sit with upper-castes people.

Students seek to excel in their pursuit of knowledge by redefining the problematic caste system in their respective academic courses or works. Their attempts show their seriousness to attach with academic culture in the pursuit of life, which is more than the instrumental purpose of education. But these attempts of students from marginalized communities are constantly marked either as "out of academic framework" or as "non-fit for the system". These elite linguistic phrases – "lack of academic framework" or "fitness to be in the academic system" – repeat in the works of the Dalit-Bahujan students.

Students from marginalized communities seriously envisage a non-alienating relationship with the modern higher educational institution is interrupted by subtle suggestions and informal procedures informed by caste as practiced by the elite institutions and their people. India is composed of different communities. All these communities are unequal in their status and progress. Backward classes are socially, educationally, and economically handicapped in a manner in which no other community is handicapped. Therefore, the principle of favored treatment must be adopted in the case of backward classes.

2.6 Vacant posts of reserved categories

Over 55 percent of the sanctioned OBC posts, 41 percent off the SC posts, and 39 percent of the STs posts in the 45 central universities and other technical and research institutes are lying vacant. More than 8000 faculty positions have been lying vacant at higher education institutions across India. Recently, Secretary, Higher Education, Government of India Amit Khare had written to all Central Higher Education Institutions (CHEIs) functioning under the administrative control of the Ministry of Education, Government of India to fill faculty positions lying vacant in all reserved categories. This has to be done in a mission mode before September 2022 [19].

54 percent of the faculty positions reserved for other backward castes (OBC) in central government universities and institutions are vacant, while about 40 percent

of those reserved for Schedule Castes and Schedule Tribes are also vacant. The situation is particularly acute in the elite Indian Institutes of Management (IIMs), where more than 60 percent of reserved categories' positions are vacant, while almost 80 percent of positions reserved for STs have not been filled. Both IITs and IIMs have been opposing the faculty reservation. The situation of the same reserved categories in the central universities, vacancies are higher at the level of professors. However, more than 95 percent of total sanctioned professor positions reserved for OBCs in all central universities and institutions are vacant. There are now 6074 vacant positions at the 42 central universities, of which 75 percent are in reserved categories [20].

2.7 Social and economical significance of higher education

Higher educational institutions are enshrined with the responsibility of producing knowledge in modern society. In recent times, with increasing cases of caste discrimination in elite higher educational institutions, this responsibility of creating knowledge is reversed by social institutions. The higher education institutions produce forms of discrimination that are inherited by the privileged society rather than acquired by them. There is a minuscule distinction between forms of recognition based on the modern rational and universal principles and recognition based on the caste system. There are adequate demonstrations that illustrate replication of caste-based form of recognition rather than recognition based on acquired rational learning. If we look at India's HEIs as spaces that are both embodied and disembodied sites that generate caste along with knowledge.

Poverty led to the drop out in past generations and joined working labor to make the little saving for their children. The poverty-caused condition is still not improved. The Right to Education is aimed to secure 25 percent enrollment of children from the socio-economically marginalized communities in private schools. The right to education is a fundamental right of the child to study. Still, education is limited largely to a particular "class" in society. The mindsets of people at elite educational institutions kill the rights of the people not having access to resources. The mindsets which discriminate on the basis of opportunities, on the basis of caste and class, cannot in a real sense secure equality and inclusion. Equality in real terms can and will never be achieved unless the class and caste conflict is dissolved. The social base of equality, inclusion, and equity in education has been destroyed by those who are assumed to be committed to ending caste and class discrimination through the provision of educational opportunities.

The production of knowledge is based on caste and it is successfully installed through an affective articulation of the elite institutions and their privileged people. Dalit-Bahujan relatively new entrants to elite institutions that have been mainly producing upper-caste esthetics and experiences are constantly made to feel alienated and discriminated. There is a whole affective economy of India's HEIs that devalues the Dalit-Bahujan "being" by prioritizing the already normalized presence of upper-caste people. It is in this realm where Dalit-Bahujan embodied itself is seen as a threat. The Dalit-Bahujan students seek revolutionary equality, which is out of the demands for mere presence in modern spaces.

Social and educational equality is seen as an effort to recognize the sameness in other people. Neither the Hindu right-wing nor the left recognizes or grants to the space for the production and reproduction of radical equality that Ambedkar aspired to. In the present context, equality is not to recognize the sameness but the indeterminable otherness of the Dalit-Bahujan people. Yet, thousands of Dalit-Bahujan students relentlessly dream and struggle to experience an intellectual atmosphere in elite higher educational institutions. There is a need to sans caste prejudice and to recreate their "being" in revolutionary new forms in a society that

otherwise seems to be forgetting what resistance with awareness can release in revising life and politics [21].

2.8 Social and scientific education

Knowledge of science and rational practice of scientific thinking are essential components of a fully functioning democracy. Scientific and rational education is an essential tool for solving problems like communalism, fundamentalism, and nation-building. Scientific education is not the national priority it needs to be; even state and local governments are not yet delivering high-quality, critical learning experiences in equal measure to all students from elementary school through higher education. The Covid-19 pandemic is at a time when India is confronting communal hate, social injustice, and economic inequality that must end. Science in society and in the schools must be for all, not only for reasons of fairness and equity but also so that a democratic society can deal with the problems that confront it.

Science is one of the key disciplines that teach people how to ground decision-making in evidence. Farmers are India's greatest citizen scientists. Indian farmers are among the best scientist in the country. Farmers are always experimenting with what works best in individual fields, how to rotate crops, what seed variety to use and what tillage, pest management, and irrigation practices work best, and under what conditions. Social diversity in the educational centers not only expands the availability to solve social justice challenges ([22], pp. 9–10).

3. Education is an agent of change

Education is an agent for social change, economic development, and poverty control that meets the various social, physical, economic, intellectual, and emotional needs and conditions. Else higher education is a medium through which social constraints and deprivation can be addressed. Education helps in the analysis of the challenges and possibilities for the deprived communities – Dalits and Bahujans – in gaining larger access to the higher education system. The importance of affordability, equity, quality, and accountability are the main pillars of higher education.

Moreover, the experiences of people from marginalized in the higher educational institutions are needed to properly addressed, given its sociological and psychological implications are subjects of the policy intent. Understanding inaccessibility to education is another form of marginalization that impacts an individual's well-being. Empowering marginalized communities in India seeks to examine the potential of higher education to overcome inequality and the urgent need to create a more inclusive and equitable pedagogy ([23], pp. 10–12).

Resources and teachers are significant components of an education system. Free and critical thinking was considered necessary for the growth of knowledge and improved as tools for obtaining meritocracy. Higher education institutions (HEIs) enjoyed autonomy in designing content and methods of teaching and evaluation. The latter half of the 1980s experienced a surge of policies in India leading to a new economic system. India tried to construct a consensus-based policy of marketability of education generally profitable. The new liberal economic regimes treat education as a commodity that is consumed in the process of production of human resources. As we know that educational institutions are powerful cultivators of subjectivities. Neo-liberalism sees that the education process should be decided by the market.

Therefore, the process of creation an education system along the lines of the market is cohered with the process of creating subjectivities that will respond to market demand only. The policies are being framed in accordance with the demands of the

corporate sector and it has a deeper connection with governance by serving the agenda of social fragmentation. Corporate-backed education policies are not determined by some essential segment of the social structure. Not only economic motive but also restructuring society behind neo-liberalism determined the norms of education content and curriculum. Social excellence is viewed as a combination of individual and institutional excellence. If an excellent person would perform at the maximum level of his ability produce not only an excellent institution but excellent students also.

Higher education has become subdued to the corporate forces where students are treated as a commodity. The tendency of higher education is towards serving to a market-based knowledge economy and educational institutions are ranked according to corporate-linked standards instead of serving to social and nation-building needs. This tendency will lead to higher education towards mediocrity that will become a threat to the future of India and its citizens. Education reforms should be aimed at building an educated and inclusive society prepared to meet social needs. It would argue that online education generates opposition to social integration. One more argument may be against online education that it prevents HEIs from functioning as centers for the growth of social capital reducing criticality.

The intent for changes in the higher education system came from corporates in the 2000s in a report titled Report on a Policy Framework for Reforms in Education, prepared by the “Special Subject Group on Policy Framework for Private Investment in Education, Health and Rural Development” of the Prime Minister’s Council on Trade and Industry, Government of India. This report was prepared in the direction of corporate leadership; it was intended towards transforming India into a “competitive yet cooperative knowledge society” by restructuring the education system. It stressed on the formation of knowledge resources that would be competitive and innovative in order to provide the country with an edge in the global ear of the knowledge economy [24].

The report advocated a common national structure for learning content and common entrance tests based on national parameterized tests. This policy was intended to adopt uniform course content for all the HEIs would necessarily ensure the growth of a pool of cheap personnel for the corporate world. A common entrance would also ensure uniform scalability across the HEIs that can be designed according to the requirements of the corporate sector. The report stressed on a corporate-intended education system and production of human resources in accordance with the requirements of the market. It sought the transformation of HEIs into factory sheds producing reproducible human labor, instead of promoting critical thinking that would be relevant for social progress.

The report that wanted to ban political activities in campuses is an example of a purposive plan of alienating the HEIs from social relevance. The report also recommended an institutional rating system that would ensure that the HEIs grow according to some specifically designed parameters. Regarding the method of teaching the report emphasized on the institutionalization of distance education. The weakness of the universities has become particularly critical with the rise of a knowledge economy as the HEIs become less capable of providing the youth with what they need. The suggestion comes from many corners that the institutions need to take advantage of the jobs in a growing and rapidly changing market. The report also suggests to the institutionalization of distance education.

4. Digitalization and commercialization

The promotion of smart classrooms and online education is a disadvantage to the students of marginalized communities and rural areas where both electricity and

internet connectivity are unstable and costly also. The test of a policy on education has to be on the basis of the four key ideas of equity, quality, access, and efficacy. India's NEP 2020 fails poorly in its total advocacy of online education as they neglect the following realities: a) the digital divide of – access (class, caste, gender, region, rural/urban, and affordability for the affluent/poor; b) the dilution of distinguishing and speciality of degree programs; and c) impact on working conditions of teachers with imbalance workload which will lead to loss of employment and casualization/contractualisation. The policy documents do not take any responsibility for the quality of the degree in terms of their meaningful composition and employability.

The new administrative and governance structure proposed by NEP will further hand over service conditions of teachers and non-teaching staff in the hands of the Board of Governors (BoG). Each HEI will be under a BoG – a self-renewing management body once the Government constitutes it for the first time. The BoG will have the following powers, which are now under the mandate of the UGC: a) Course to offer, a number of students to admit and educational outcomes; b) number of teachers & other employees to recruit; c) terms and conditions of employment including remuneration, increments, promotion, and continuation in service. There will have an obvious effect on the academic environments of the institutions with rampant commercialization and privatization ([25], pp. 1–3).

The notification issued by the Ministry of Education in 2015 provided the guidelines and interpretations of MOOCs (*GoI 2015*). The name chosen for the platform launched was SWAYAM, which is a Sanskrit word and can be roughly translated as “a complete and self-sufficient entity.” In the official document, however, it is the abbreviated form of “Study Web of Active Learning for Young Aspiring Minds.” The SWAYAM is based upon mainly three components: freedom to access learning on an anytime-anywhere basis; credits earned will be counted for awarding degree, and industry and industry groups are involved in designing course content and evaluation system. The hidden agenda is that the campus is virtual and thus free from politics, and thereby allows the process of learning to remain undisturbed by sociopolitical dynamics. In short, the prescription is for a campus-free education that curbs human interactions [26].

The 1980 Mandal Commission report which relied on the 1931 census to suggest 27 percent reservation to OBCs (other backward castes) on the basis of socio-educational backwardness estimates that OBC constitutes around 52 percent of the population, making them an undeniable part of the country's social fabric, with lack of access to employment opportunities, social welfare, and educational institutions. The VP Singh government, India had created 27 percent reservation for OBCs in 1990. Finally, 27 percent reservation for OBCs in educational institutions was permitted after the enactment of Central Education Institutions Reservation in Admission) Act in 2006. The National Family Health Survey – 2016 data revealed that the caste-based gap in educational spheres is wider than ever ([27], p. 10).

5. Ambedkar's views on education

It is said that Dr. Ambedkar was the first untouchable Indian who obtained the highest degree of education. Ambedkar's writings on education include his submission paper before the Indian Statutory Commission in the Bombay Presidency on “State of Education of the Dalits” and one article on “Subsidy for Education” in which he pleads for an increased subsidy from the government on education and also underlines the need for inexpensive education for the deprived communities. Ambedkar criticized the British policy on education for not adequately encouraging education among the lower castes.

The major concerns of the SCs, their concerns on education are lack of assistance for higher education and lack of facilities for technical training. The role of education is to moralize and socialize the people, not to make them servant or professional. The lower orders of Indian society are just getting into the higher education and the policy of then the time's Education Ministry of the Government of India therefore ought to be to make higher education as cheap to the lower classes as it can possibly be made.

Ambedkar established the People's Education Society in July 1945 with the two main objectives: first, search after the trust and second, start, establish and conduct educational institutions or give aid to such institutions. He emphasized the need to explore the myth created by the Hindu orthodoxy that students of backward communities were incapable of learning. Ambedkar has incorporated Article 45 in the Directive Principles of the State Policy (DPSP) of the Indian Constitution that,

“the state shall endeavor to provide, within a period of ten years from the commencement of this Constitution, for free and compulsory education for all children until they complete the age of 14 years [28].”

Learnings from Dr. Ambedkar, there are four different communities in the matter of education, divided the Indian society into four different reservation categories. The first is OBC that social and educational backward class which includes farming and rural communities. The second class is SC which includes all untouchable communities. The third class is ST which includes all tribal communities both plain and hills, forest communities. The fourth class is EWS that includes the economically poor upper castes. The first three classes are non-Brahminical and educationally most backward also.

The fourth class is Brahminical which includes economically weaker sections of upper castes. The EWS is educationally advanced but recently designed as economically poor. Bearing these divisions in mind, one sees a great disparity in the comparative advancement of these different classes in the matter of education. The government is not increasing its expenditure on schooling and higher education to create more space and opportunities for the students of marginalized communities.

Ambedkar requested the honorable education minister then the time the British India government to spend more money on primary education, if for nothing else, at least for the purpose of seeing that what he spends bears some fruit ultimately. Ambedkar also shared his concern about the commercialization of education in India. In the end of his speech, Ambedkar concluded his remark that fear is of commercialization of education. As in Ambedkar's view: “Education is something which ought to be brought within the reach of everyone.” Ambedkar's big concern was related to casteism and their educational deprivation. At a stage where the lower castes of Indian society are just getting into education and the policy of the British government therefore must be like such that makes higher education a cheap to the lower castes as it can possibly be made [29].

6. Conclusion

India needs to double its educational spending and private sector must take care the social justice in its educational institutions. The demand for admission in higher education comes from rural areas because declining of the rural economy and families from urban areas where they have stable jobs and had been settled in cities. Education is an agent of change not only in individuals but society and economy also. Education is a mainstream of nation-building that must be socially just, politically equitable, and economically affordable for education-seekers in India. Education is not only required for becoming eligible for jobs but also require

for nation-building. Adequate representation of the people from socially and educationally marginalized communities in higher education is a dream of people involved in the country's freedom struggle. Even after 74 years of India's independence, still the presence of people whether scholars or teachers in higher education is few countable numbers.


India needs to improve its digital infrastructure of education as a smart classroom, sufficient and stable supply of electricity, and internet connectivity in rural and remote areas. 80 percent of students are both economically poor and socially-educationally backward and live in rural and urban-peripheral areas. Families of students of this huge population cannot afford expensive education in big cities. The dropout problem in higher education is the results of the increasing cost of education, low and unstable income sources of parents, insufficient government-funded educational institutions, and the socio-geographical gap between students and places of higher educational institutions. The backlog of reserved categories in the teaching and non-teaching posts in education is another major problem in the present time. While 40 percent of total sanctioned posts are running vacant in higher educational institutions for long time, even the condition of school education is not much different in India. India needs a more socialist education policy and campus education system rather than corporatization and digitalization of education.

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Relevance of New Higher Education Approaches in Zimbabwe's 'Second Republic'

Kudakwashe Keche

Abstract

Through face-to-face interviews with lecturers, this research explores the relevance of new higher education approaches in Zimbabwe, particularly Education 5.0 and virtual learning environments (VLEs). The interviewees are lecturers in the Department of Creative Art and Design (DCAD), School of Art and Design (SAD), Chinhoyi University of Technology (CUT), Zimbabwe. Purposive sampling was used to pick interviewees based on their knowledge and experience in higher education teaching and learning. The main finding suggests that the five missions of Education 5.0 are not new in higher education and training in the country. Thus, lecturers do not perceive the policy as new; however, the means and ways in which it is delivered to learners in the COVID-19 era are novel. The hype around Education 5.0 coming from the Second Republic government is factory made and politically calculated. In addition, it is difficult to underpin the development given the economic problems the country is currently facing. This research also finds that VLEs cannot be efficiently and effectively used in Zimbabwe's education sector because the country still lags behind the world order of the Internet of Things (IoT). However, interviewees were of the view that teaching and learning through virtual means and ways is not different from the old face-to-face model.

Keywords: Second Republic, curriculum, virtual learning, education 5.0, teaching

1. Introduction

Poor economic performance and a lack of a focused national education policy in Zimbabwe have seen the country hopping from one policy to the next. This has been largely influenced by the country's unstable politics experienced under the ruling Zimbabwe African National Union Patriotic Front (ZANU-PF) party since the arrival of independence in 1980. Inter alia, the abrupt revision of the foundations, principles, and issues of the curriculum of education and training became one of the prominent flagships of the ZANU-PF's maladministration. Recently, the education sector has slowly turned virtual, a development that further gives teachers a feeling that they are being forced to subsidise teaching and learning exercises. This is so because they must go out of their way, using their meagre earnings to buy state-of-the-art information and communication technology (ICT) equipment to use for the teaching and learning of students and pupils. Transforming to virtual learning environments (VLEs) is yet to yield meaningful results. However, the Second Republic's government's abandonment of Education 3.0 for Education 5.0,

which ignores all preliminary levels of education outside of tertiary and higher education, is enough to prove that in the modern world it is difficult to follow a fixed education guide forever. At the same time, the revolution has been hampered by the outbreak of COVID-19. The disease has brought new dimensions to the face-to-face forms of teaching and learning in higher education institutions (HEIs) in Zimbabwe. The outgrowths coincided with the adoption of Education 5.0, which is built around the following key components: teaching, research, community service, innovation, and industrialisation. This chapter discusses the relevance of Education 5.0 and VLEs. It also suggests the way forward post Education 5.0. The study adopted a qualitative research approach during fieldwork, utilising face-to-face interviews with five lecturers in the Department of Creative Art and Design (DCAD), Chinhoyi University of Technology (CUT), Zimbabwe. Purposive sampling was used to pick the interviewees based on their knowledge and experience in HEI teaching and learning. The main discovery suggests that Education 5.0 is not new, particularly at CUT. Hence, the lecturers argued that HEIs are biting off more than they can chew as they have been struggling to meet the billing of the previous education model, Education 3.0, within which innovation and industrialisation were cherished, particularly at CUT. In short, the new Education 5.0 doctrine is neither more advanced than its predecessor nor sustainable given the lack of a straight policy framework that guides higher education and training in Zimbabwe. A similar post-Government of National Unity (GNU) policy, Science, Technology, Engineering, and Mathematics (STEM), soon became a white elephant after the unprecedented November 2017 coup d'état. Though the policy was started from the grassroots, it excluded the arts, which made it rather problematic because it was not holistic. This scenario has been commonplace in most pre- and post-multiparty republic of 2009–2013 educational policy initiatives. Former minister Lazarus Dokora's curriculum review for primary and secondary education is another example of uncherished educational policies implemented almost at the same time as STEM in Zimbabwe. STEM has already been suspended by the new dispensation. One good reason for that has been the need to rubber stamp political muscle by the incumbent government from time to time. The developments explain what was happening during the late and former president Robert Gabriel Mugabe's regime; a fact that cannot be proved or disproved in black-and-white terms. Since achieving independence, Zimbabwe still lags behind the world order of the IoT. A handful of the interviewees were of the view that teaching and learning via VLEs was not different from the traditional face-to-face model. The majority claim that through the utilisation of VLEs, HEIs are simply flogging a dead horse since the cost implications that characterise Internet access in Zimbabwe are heinous. Only a few students attending higher education and training have surplus income to purchase digital equipment and access the Internet.

2. A brief overview of the new approaches to higher education

It may be necessary to review a curriculum to fulfil new needs, develop a new program, reach new goals, accommodate a new dean or chair, restore the original emphasis of the program and rationalise years of untamed growth [1], meet newly defined expectations and standards, and/or improve student and faculty satisfaction [2].

The postmodern curriculum has influenced professional considerations that guide decisions made by lecturers in curriculum reform [3, 4]. As a result, extensive research into 21st-century skills is being conducted to gain some insight into higher education curriculum [5]. Refs. [6–9] argue that there are three aspects of the

postmodern core curriculum. These include a focus on civic teamwork and not band rivalry, a rounded process position rather than distinct parts, and a multi-layered, cross-cutting, or interdisciplinary curriculum, which includes integration of societal values. Through different state-controlled mass media channels, the government of Zimbabwe justified Education 5.0 as endogenous, not loaned out, and avant-garde to Western values of higher education delivery in the country. On that basis, the state concluded that innovation and technology policy must pay attention to the kinds of incentives one would eventually get after the creation of a product that actually solves a problem in a particular sector or industry to enrich the lives of ordinary people [9]. However, it appears as though the calibre of Zimbabwe's education path has had questionable relevance. When modifying the curriculum, it is important to consider the difference between making minor and comprehensive alterations to the curriculum review.

Dill [10] posits that Education 5.0 has been informed by the sense of contemporary competitive markets, the application of inducements for exceptional innovations and industrial activities, and the process of professional self-regulation. While belief and esteem for certified decisions must be earned and justified, valuable declaration and validation systems must support, not impede, that professionalism. Institutional self-improvement enhancement and innovation must be balanced and vice versa. It could be argued that an inward-looking profession that learns from encounters, an active and self-regulated system, is more sustainable than one that is both imposed and external. Such education control mechanisms will never be successful. Thus, the ballistic nature of the uptake of Education 5.0 in universities and other tertiary institutions tends to force lecturers to simply scratch the surface. This is so because educators do not perceive themselves as part of the curriculum reforms.

Many state-run systems have launched a coordinated set of education policy initiatives and reforms aimed at fine-tuning what Harvard Professor Elmore refers to as the "hub of learning practice." That is, "how teachers understand the nature of knowledge and the student's role in learning, and how these ideas about knowledge and learning are manifested in teaching and classwork" [11]. Thus, a complete and collaborative curriculum demands a "full examination of how academics conceive their role and how the curriculum itself is defined, analysed, and changed" in the process of curriculum reform, especially [12]. Hence, the invention of higher education has evolved over the years from one generation to the next [13]. This is due to changes in the nature of economic problems being faced by people the world over and the need to provide solutions to challenges. This is the reason why the postmodern era curriculum has been changing over the years.

As such, [14] note that the postmodern curriculum is a "curriculum-in-action," as it is fluid and flexible in nature. Similarly, [12] asserts that curriculum variations are also imaginative and molten. This means that curriculum review and revision are not cast in stone. Elsewhere, curriculum reforms have yielded positive results [15–18]. Thus, Education 5.0 is non-linear because it is difficult to come up with a master plan and rationale for a fixed core curriculum. This is because global problems change every now and then. By default, they require different creative, innovative, and enterprising ideas and solutions. Public education started off benchmarked on teaching, specifically the "basics," around the 1780s [19]. Technology was remotely used in this education system as an aide by educators in the teaching and learning process [17]. Research was introduced later in the beginning of the 20th century [20] and then came community service. The kind of education that depended on these three variables became known as Education 3.0, which later led to the development of Education 4.0 and 5.0 [17].

In 1956, Bloom outlined the taxonomies of foundational stances that can be promoted to effectively make lesson plans in any course at different levels of teaching [21, 22]. The differences and densities of thought, branded by Bloom and later updated by other scholars [15, 23], continue to play a role in teaching and learning.

An advocacy and lobby entity based in the United States, the Partnership for 21st Century Skills and Learning (P21), argues that learners need proactive skills, knowledge, and professional conduct to successfully enter the current competitive industry. This enables them to provide solutions to the ever-evolving economic challenges of the time. The fast-track land reform program (FTRLP) was implemented in 2001 after an auspicious year for the Zimbabwean economy in 2000. Since then, the country has been struggling to provide the basics, including education, to its citizens. The country's tension with the West grew to an extent that even the Bretton Woods Institutions, namely the World Bank (WB) and the International Monetary Fund (IMF), seized to avail funding to Zimbabwe. As a result, the country's critical sectors were left to rot or some have been slowly collapsing, including the tertiary and higher education sector reforms, due to a lack of stable funding except for selected humanitarian causes. To make matters worse, the magnitude of local educational decomposition grew after White commercial farmers and investors backed off in retaliation to the FTRLP. Higher education students' outcomes include foundation subjects and 21st-century themes; learning and innovation skills; information, media, and technology skills; and life and career skills [24]. However, there are different ways to emphasise students' capabilities and how they use what they learn in real life. In the evaluated literature, there is common consensus across studies on the desire for new forms of education and training to deal with global problems. Despite this contract, there is no one-of-a-kind and unique approach to what are known as "21st-Century Skills" [11, 25].

The spread of technologies, increasing globalisation and internationalisation, and the shift of industrial social communities to knowledge-based social economies have all contributed to the 21st-century skills education discourse. Therefore, demand for innovation and industrialisation and its diversity in education may be informed by variations in developmental situations. The large and probable demands of "21st-century skills" should be known in the broader spectrum of development across the globe. The absence of facts about the effective delivery of "21st-century skills" also points to the need to come up with new educational paradigms. It remains a huge task to obtain information on the brunt of the sorts of system-wide intrusions linked with their release.

It appears innovation and industrialisation are not new "21st-century skills". Rather, some may see them as "newly important." Industry today wants workers that are able "to find and analyse information from multiple sources and use this information to make decisions and create new ideas" [26], p. 631. Educational philosopher John Dewey proposed education "grounded in experience" [27], p. 13. This suggests students should learn skills for the future, usually those that enable them to be inventors, so that through interaction with phenomena they can eventually solve the ever-evolving problems of life. Furthermore, [27], p. 14 argues that Dewey was a visionary who defined an educated person as someone who thinks and reflects before acting, as someone who also responds intelligently to a problematic situation and finally assesses the consequences of the shown plan of action. This outlines the nature of the new millennium learner.

In 2009, the United States Secretary of Education Arne Duncan was quoted in the press as arguing that 21st-century skills "... increasingly demand creativity, perseverance, and problem solving combined with performing well as part of a team" [19], p. 121. After all, the continuum of the development of the education system has transformed slowly while the groundwork for wider change has been in

the cards. Major changes were necessitated by technological advancements, social networking, and a deeper understanding of educational processes as well as new legal and economic frames of reference, resulting in the birth of Education 3.0 [28]. Education 3.0 was fluid and was strongly distinguished by teaching, research, and community service [29]. The system, like the former education paradigms, treats students as the same but allows for a mutual learning community.

Additionally, [30], p. no page claims that this third educational landscape was centred on

...rich, cross-institutional, cross-cultural educational opportunities within which learners themselves play a key role as creators of knowledge artifacts that are shared, and where social networking and social benefits outside the immediate scope of activity play a strong role.

Also, [29] shared similar views about the state of Education 3.0. They argue that students can be creators of knowledge, which they can then share with society to solve problems. However, distinctions between artefacts, people, and processes are distorted, as are distinctions between space and time. HEI positioning, including policies and strategies, changes to meet the challenges of prospects presented by changes in the world, such as the need to create new products and improve standard of living. In addition, Education 3.0 held much promise for higher education in general. It poses serious challenges to existing universities, including their failure to groom creators of goods and services [29].

Yet, [29] argues that administrative challenges intensify as teaching becomes more and more linked to technology. To offer and share knowledge, e-learning is often used as the technology of utility. Several e-learning platforms such as Moodle, Eagle, and Changamire have been developed and are ready to use. This development led to a dualised teaching and learning approach, that is, a combination of e-learning routines and traditional face-to-face teaching and learning methods [29]. This implies that somehow circumstances forced lecturers at CUT to design a curriculum fit for the virtual mode.

In broad terms, the first, second, and third education paradigms downgraded the academic apprentice to a submissive function whereby the student was treated as an empty slate to be filled with knowhow rather than as a decisive and inventive crisis resolver [28, 31]. The models force differences in stages of mastery among learners and frown at guaranteeing proficiency in education for all. Resultantly, the three generations of education grew irrelevant in the current post-industrial society globally and have been accused of “failing, or passive and unmotivated learners” [31]. This is because technology was used by teachers to enhance the learning process rather than to change how things were done in teaching. Learning is supposed to be individualised, learner centred, made to order, and impressionable so that learners can show mastery of skills and knowledge during and after higher education and training.

Over the years, world problems have become increasingly tense and thus the shortcomings of Education 3.0 led to the development of Education 4.0 [32–34]. Through Education 4.0, students are allowed to learn in solitude with the aid of the Internet. This enables critical and creative thinking as well as societal interaction in inquiry-based learning. Creative thinking concerns thinking beyond the bounds of convention so that learners can solve challenges they face in life [20]. Societal interaction is about how learners involve themselves in teamwork or collaborative skills necessary for the functioning of the communities they live in [35].

In Malaysia, Education 4.0 has been used as the starting point for the revision of the tertiary education curriculum [20]. The Malaysian Ministry of Higher Education

tabled the 2015–2025 Malaysia Education Blueprint (MEB) with the intention of aligning the country's education system with global trends. The MEB aims to revamp the Malaysian higher education paradigm with the desire to “balance between both ethics and morality along with knowledge and skills” [6, 20]. It is in the interests of the MEB that students are supposed to carry the country's flag high and understand Malaysia's international relations with other states regionally and overseas. This is one attribute MEB shares with the fifth ontological and epistemological educational approach adopted in Zimbabwe in 2020. It is based on indigenous knowledge systems (IKS) or local heritage with a desire to produce products using resources that are available in the country [36].

On the contrary, several programmes and technologies have been included in the redesigning of the university curriculum in Malaysia. Business communities, both local and international, were invited to webinars, seminars, and workshops that discussed how the country should proceed technologically and industrially [20]. Malaysia held fruitful stakeholder consultations before the adaptation of the fourth education reform. Thus, the reform blueprint was clear and professionally guided by competent process leaders and curriculum review committees. To that end, Education 4.0 in Malaysia has been argued as the future for creative education that responds to the needs and expectations of industry and commerce, where people and equipment align to allow new potential. Similarly, as early as 1980, Zimbabwe's first education and culture minister, Dzingai Mutumbuka, argued that the post-independence government's dependence syndrome on theory-based education policy inherited from the Rhodesian government was a time bomb and that there was an urgent need to do away with it. The minister left the post, but his legacy continued into the 1990s. The Chetsanga Report of 1995 and the Presidential Commission into Education and Training (CIET), also known as the Nziramasanga Commission (NC) of 1999, were sanctioned by the government. The two considerations became keynote efforts meant to revolutionise the country's post-independence Western-based education system. By then or at that time, both explorations concluded that Zimbabwean education should be driven towards the production of goods and services. Some of Zimbabwe's neighbours, such as Zambia and Malawi, as well as a few other Southern African countries, have already adopted the NC recommendations and found them to be fruitful. However, Zimbabwe, as the think tank of noble high-end higher education skills, has so far refused to accept NC's recommendations. This anomaly has seen the country's economy fall. The effects forced the government in 2020 to fast track the tertiary and higher education sector teaching, training, and learning from Education 3.0 to Education 5.0. However, the development coincided with the need to limit or abolish face-to-face teaching and learning and replace it with online means and ways, whether synchronous or asynchronous. Thus, this study seeks to establish the relevance of the Education 5.0 policy in Zimbabwe. It also investigates the importance of VLEs in teaching and learning in higher education graduate programmes.

3. Methods

The study adopted a qualitative research method in this study to understand the relevance of new higher education approaches in Zimbabwean HEIs. This enabled us to avoid making preconceived judgements as to why certain arguments were raised during data collection [37]. The chosen methodology offered depth in understanding experiences through interviews rather than simply dealing with the rank-and-file of recorded approaches, feelings, and actions of study participants. Importantly, research quality relies on researchers' abilities and weaknesses. The

target population was lecturers from all HEIs. The entire sample was drawn from CUT and was assumed to be “representative” of HEIs’ teaching staff. The professional practices, morals, skills, and socio-political inclinations of the teaching profession were the basis for the selection, exclusion, and inclusion of samples in the research. Individual research participants’ understanding and experience in higher education teaching and learning guided data collection and data analysis. Thematic analysis was used to present the data and discuss generic views from interviewees. This was possible through the coding and indexing of transcriptions. Purposive sampling techniques were used to identify and choose sampling elements. As noted by [38, 39], the investigator’s view on the attributes of a representative sample played a central role in probing the samples by focusing on lecturers’ experiences, qualifications, and known incidents of exposure to curriculum reform and adaptation to new forms of higher education techniques over the years. Notably, they were found at CUT. Within a study, there is a need to clarify the sample size to ensure validity and reliability of findings. The DCAD has twelve lecturers, five of which had higher education teaching and learning experience in the DCAD; thus, we chose these individuals to interview. Their experience was used to solidify the results of the study. The findings became generic after the fourth interviewee. We conducted the fifth interview only to be sure of the saturation of data gathered. Using face-to-face interviews, we solicited answers to the research questions. However, it was not unqualified, which is a prominent weakness of the data collection method.

4. Value of education 5.0 in Zimbabwe

Generally, all interviewees argued that Education 5.0 and VLEs are steps in the right direction for the tertiary and higher education sector in Zimbabwe. These policies and practices are needed to provide solutions to mounting economic problems that have lowered the standards of living of ordinary people not only in Zimbabwe but the world over. Education 5.0 is perceived as a solution to the economy’s waning fortunes. However, lecturers in the DCAD at CUT do not view the Education 5.0 policy as novel. Interviewee 2 noted, “I think it’s not new. It has always been important for graduate students to be taught skills in addition to theory.”

Interviewee 1 noted, “It’s what we have been doing in the School of Art and Design (SAD). The nomenclature speaks for itself. We were ahead of the announcement by the government. We are not even surprised or scratching our heads about what to do. We know what to do. We have been doing it.” Interviewee 3 stated, “I do not see anything new about Education 5.0 for our school and CUT. It has been the order of the day before all this hype about Education 5.0. It has been the culture at the university.” Interviewee 4 observed, “Maybe it’s only the title that has been improved to be specific. In our department, we have always talked about design, creativity, innovation, and commercialisation. Again, it’s the university’s motto - technology, innovation, and wealth.” Interviewee 5 said, “I can’t distinguish the difference between what we have been doing (Education 3.0) since the school was founded and the new tertiary and higher education teaching and learning or discourse (Education 5.0). Our students have been producing goods. We are an innovation and technology institution.”

On a positive note, all interviewees (100%) agreed and valued the worth of the dogma of Education 5.0. However, interviewees also held a general feeling that the Ministry of Tertiary and Higher Education Science and Technology Development (MTHESD) hindered the curriculum review. This means that HEIs have lost their autonomy in designing degree or diploma programs based on their understanding of graduate needs and desires.

In Zimbabwe, Education 5.0 builds on the new dispensation's (Second Republic) political ambitions to control all critical sectors of the country's economy and the need to prove a difference to the ex-president's (the late Mugabe's) era. Because of this, among other reasons, lecturers in tertiary and higher education institutions could not receive the new education policy with honour, as they felt politicians continually interfere with their work and consider little or no input at all from them.

The subsequent views from the research participants reflect on the need to produce graduates with high-end skills that are required for Zimbabwe to trigger sound teaching, research, community service, innovation, and industrialisation.

Interviewee 1 noted that Education 5.0

...is an area that focuses on the acquisition of both theory and skills with a thrust, enabling students to develop creativity and innovation skills. Besides being creative, they need to have the ability to produce, to come up with artefacts, to come up with products that will have an impact on technology or technological development. It's more like experiential learning. You don't want your student to just master your theory or content, but they must be able to apply that content to make a difference in the area of industrial development.

Interviewee 2 said:

So, the issue of innovation is about problem solving. When you innovate, you are solving problems. Problems are solved by people who create new ideas, and these ideas are turned into products and services. They may eventually be mass produced, thus saving the communities. They solve problems that are faced by the communities... so as the five pillars: teaching, research, community service, innovation and industrialisation.

The preceding sentiments present the interest of the dogma of Education 5.0 as a panacea to the practical deficit that has been inherited in most universities in Zimbabwe since colonial times. It is argued that innovation and industrialisation are ideal missions that can facilitate teaching and learning in HEIs. Beyond the two comments from Interviewees 1 and 2, generally, Education 5.0 is glorified by HEI educators because it allows the application of theoretical content to produce tangible goods and services. The teachers interviewed feel that teaching and learning should not end with the articulation of bookish text, as that translates to a waste of time in the process. Rather, book learning should be transformed into real products that can be put on the market for sale. Production of new goods and services through the facilitation of creativity, innovation, and industrialisation in the higher education and training sector may possibly bail out emerging economies like Zimbabwe's from local and international debt. This, in a way, agrees with [3]'s view that postmodern curriculum reforms have had a significant influence on the development of higher education and training. Hence, [3, 14] have observed that the up-to-date curriculum is a "curriculum-in-action" as it mutates.

It was discovered that students need to be given a hands-on education that sustains their lives in the long run. In addition, failure to nurture higher education students in ways that equip them with practical skills will intensify global economic problems. This explains the need to modernise our societies via collaboration and comprehensive curriculum reform with the intention of identifying problems and providing solutions. That means new ideas are brought up in the process of teaching and learning, which has a propensity to lead to economic development. This is unlike the third generation of education that did not include creativity, innovation, and industrialisation as key elements in higher education and training. That shows how

the Zimbabwean higher education curriculum was contrary to Bloom's taxonomy. It only short-changed the learners. The (revised) Bloom's taxonomy states that the purpose of higher education and training is to gain cognitive abilities and affective and psychomotor skills, which was not the case with the precursor to Education 5.0. Within the context of a three-tier education philosophy, Zimbabwean higher education learners suffer from limited post-graduate practical skills, which have become the cornerstone of modern-day industry. This identifies with the views [3, 5, 18] that the 21st-century curriculum reforms try to promote creativity, innovation, and commercialisation through higher education experience.

The DCAD lecturers aspire to produce graduates who work to solve problems in their communities. Interviewee 4, who is also a senior lecturer in the DCAD, stated:

As an academic, what it means is that whatever we teach our students, they have to have the skills to apply — the knowledge of doing things, especially when they start to work in the industry. We have students that are going to be designers. Either way, they are going to be industrial designers or multimedia designers. So, we expect our students to have an impact wherever they go by bringing in something new wherever they will be. Whether one is a product designer or not, we expect them to be innovative in coming up with new ideas. We expect them to be creative. In particular, we expect industrial designers to come up with new products that can meet a need in society.

However, the same interviewee also stated that Education 5.0, particularly in the DCAD at CUT, was not at all new. "Speaking as a designer, Education 5.0 is almost right in the middle of what I do. We design and come up with new innovations, whether it's multimedia design or industrial design," noted interviewee 4.

With an undertone of protest, the interviewee insinuated the non-existence of a clear education policy in Zimbabwe from independence. Creativity, innovation, and industrialisation are believed to have been embedded in the Education 3.0 philosophy, though they were not distinctively mentioned as missions of the doctrine. The interviewee further stated:

As a concerned citizen of Zimbabwe, I would say that we have been talking about Education 5.0 from different points of view. Every minister that has come on the scene has come up with their own version of innovation and industrialisation. So, it's not new to us. We have been practicing this.

This view attempts to highlight a pang of guilt over the lack of a national education policy in Zimbabwe. The interviewee further lamented wholesale curriculum reforms that are influenced by the need to score political goals by different political players that come and go into power in Zimbabwe, or out of the need to be different from one's predecessors, as noted earlier. Political scores are mentioned by Interviewee 4 as being prime in the way the Second Republic has been trying to govern and control the flow of higher education systems. The current regime came into power following a coup d'état in November 2017 [40, 41]. What is noble, however, is that policy, whatever its thrust, should be seen to contribute to the resolution of national problems. The interviewee also confirms the view that policy alterations are done haphazardly and with impunity in Zimbabwe.

For example, in our department, we train our students to be innovative, whether we are talking about Education 5.0 or even if it were reminiscent of the now defunct Science, Technology, Engineering, and Mathematics (STEM) policy of Mugabe's era. The policies expect students to contribute to the nation through the

work they do. In other words, how they can make an impact when they leave university. Can they be seen to be coming up with new ideas, new products, or thinking outside the box for the purpose of commercialising their ideas?

STEM died after the “soft coup” that deposed former and late President Mugabe and was replaced by Education 5.0. However, the argument is an indirect attack on the government for failing to acknowledge publicly that some higher and tertiary institutions were the founders of Education 5.0, opting to claim parenthood of the doctrine without pity. This implies a lack of collaboration between the government and the education sector in Zimbabwe. It existed well before STEM came into force in the post-GNU. However, the interviewee bemoans the lack of a specific higher education policy in Zimbabwe that glorifies the five missions of higher education and training at once. This equally identifies with Burgess [42], who stated that curriculum reviewers should desist from the practice of calibration of teaching and learning to satisfy the control mechanisms of the day.

From all the interviews conducted, it was also discovered that innovation and industrialisation are paramount in cultivating a higher education student to become an asset in society. In simple terms, Education 5.0 is progressive. Interviewee 4 observed that sharing the skills of creativity and industrialisation with learners is essential to the success of the world as a whole and encourages innovations to be cross-pollinated. This confirms sentiments by [7], who said that innovation and entrepreneurship in higher education are the cornerstones of a holistic graduate in any given community. That takes communities to greater heights when it comes to the depth, breath, and width of creativity, production, and commercialisation of ideas that start off as academic.

Interviewee 3 observed that Education 5.0 is progressive in that:

Innovation comes first, then industrialisation later... The thinking of Education 5.0 then says, in addition to the learning experience that produces academic knowledge, let the learning experience be able to promote innovation. In other words, let the student or learner be encouraged, or be groomed to be able to create new things. Suppose it's a module that is being taught, let it be able to usher the student into exploring ideas that are new. We are looking at the possibility of students breaking new ground by introducing products that are new. That's the dimension of innovation; products that may answer the needs of the community. So, having produced those new products, those ground-breaking inventions or ideas, then... will be industrialised.

The interviewee went on to say:

With industrialisation, other than training students to come up with researched knowledge presented in written documents and other platforms, that would make it generally academic. Education 5.0 brings in industrialisation where the learning experiences result in the production of products and goods... Let them be goods that are usable and that will attract the market, so that's the industrialisation aspect being emphasised through the (new) learning experience. Suppose there is a company that is interested in adopting that idea, technology, or whatever is produced. The company can actually be able to adopt that and produce the goods continuously.

From the preceding arguments, it can be noted that lecturers in the DCAD are prepared to intensify teaching and learning that is bound to produce goods and

services that can be used in people's everyday lives. The views suggest that the process of creativity, innovation, and industrialisation at HEIs should be continuous if the gains of Education 5.0 are to be realised in Zimbabwe. Once a product or good or idea is developed through higher education and training, it should be patented. Thereafter, its production should not halt but needs to be constantly improved or sustained with the input of the learning institution, students, and company that would have adopted it. On the contrary, when learners graduate, they may set up their own companies or industries that produce and sell goods, breaking new ground. It is against this backdrop that higher education and training should work illustriously to provide new and competitive goods and services with the view of boosting niche or existing business lines. This again extends to the view that universities should closely work with industry in its bid to sustain high-order cognitive, affective, and psychomotor skills as provided by Bloom in 1956 among graduates. The feeling agrees with [24, 43–48] as the way to go towards inculcating hands-on skills among tertiary institute graduates.

Furthermore, it was discovered by one of the interviewees that ancient or historical development education systems share similarities with Education 5.0. In the past, individuals created products such as hoes, bows, and arrows without having gone to a formal higher education setting to learn the necessary skills. This means that Education 5.0 is an undisputable extension of the IKS in Zimbabwe. IKS refers to locally based forms of knowledge production using available resources. The bond that exists between Education 5.0 and IKS was raised by Interviewee 1, who said:

I think innovation is needed for any country or institution. Innovation is not new, as people have been innovating from the time they were put on earth. That's why we have developed countries and developing countries, and some that are in between developed and developing, because people need to grow with technology to make life easier. So we need to innovate.

This finding suggests that countries and their education systems evolve at different times. Some countries have already introduced and benefitted from Education 5.0, while others are midway through realising the fortunes of the doctrine. The belief mimics [9]'s view that innovation and technology policy pay attention to the kinds of benefits that will inevitably be earned after the production of a commodity that genuinely solves an issue to enrich the lives of ordinary citizens. The interviewee further pointed out:

I will take an example. Going back to the Industrial Revolution, people produced products. Had they gone through an undergraduate programme? They hadn't, but because it was within themselves. That's what we are simply doing in universities to nature and support, so that we can see results. But, if they don't produce, that's fine, because they would have at least produced something. It may not be patented, but we will see a product. We will have engaged our students to focus on the importance of production.

These arguments by Interviewee 1 also show that Education 5.0 should not be presented as the Second Republic's creation or virgin education policy or rather a niche idea because it has roots in the primordial society, among other epochs of human development. This means that, as an educational approach, Education 5.0 is a back-to-basics teaching and learning system. The interviewee feels universities should not make a fuss about students' failure to produce something patentable at every level of learning. It is not always that students will come up with new ideas

and make products that can be put on the market, but the very fact that during teaching and learning they will have produced something useful is commendable. What is important is to ground students with real-life experience. This pinpoints what was projected by the renowned education philosopher John Dewey [27]. This means that creativity, innovation, and industrialisation should not be overly underlined through curriculum reform, but rather via the ability to develop graduates that have practical skills that can lead them to develop tangibles in the real world. The interviewee also suggested that higher education and training should not put students under pressure to produce patentable products. The same interviewee pointed out that “without the industry, you cannot process anything.” From this view, it is evident that students should not just create new things for the sake of a display of their abilities but rather for the purpose of making a living out of them. This research outcome proves to be consistent with [20, 31] who proposed that the predecessor of Education 5.0, Education 3.0, pacifies higher education learners as their learning capabilities do not go beyond documented research, which does not at all avail solutions to people’s problems.

Education 5.0 also helps people to appreciate the values related to hands-on education in the 21st century. Interviewee 5 noted:

People should be taught about industry in the same way that they are taught about tourism or geography, such as the existence of Great Zimbabwe and Victoria Falls. People know there exists a company that produces specific and unique goods or services wherever they are, and that information is not in our curriculum. People just know sweets and milk, but they don't know where they are produced. They also know the Great Zimbabwe, Mosi-oa-Tunya, only theoretically. They also know the geographical sites, the heritage, and the natural sites of the country. That is what has been emphasised more in our curriculum all this time, but there has been nothing telling us about innovation and industrialisation.

This interviewee also laments that Education 5.0 skipped the grassroots to focus solely on higher and tertiary education. The arguments complement the 2019 strategic plan pronouncements [37] from the Ministry of Higher and Tertiary Education, Science and Technology Development (MHTESTD). It is the finding of this study that there is a need to ensure that Education 5.0 should begin at the kindergarten level. This would see students develop strong values that support innovation and entrepreneurship in their teaching and learning up the ladder. This study also shows that interaction with creativity, innovation, and industrialisation needs to be continuous in the teaching and learning cycle. The components should be designed to start with early childhood development (ECD) and progress to university. At the same time, concern should not be limited to the appreciation of access to finished goods or the use of already set up services. Generally, all forms of education should not narrow students’ knowledge acquisition abilities to the existence of finished products such as milk, bread, and other goods and services. Known service places like Mosi-oa-Tunya, for example, do not at all expose students to processes that trigger and lead to production. These places have already been captured by investors who are also grappling to survive under the current global conditions. The income being realised by these businesses, for instance, has not been felt to provide solutions to the country’s evolving economic problems. But through higher education, innovation, and industrialisation, the nation’s economic status can be realised. This finding agrees with sentiments by [20], who observed that the Malaysian government came up with education reforms that were not exclusionary of paediatric teaching and learning.

5. Virtual learning environments (VLEs)

Among other things, Education 5.0 has been rocked by the need to encompass technology. All over the world, the insurgence of COVID-19 has made it even more necessary to work with and use technology in education. Technological development can be argued as a paradigm shift in the world education order. Pandemic lockdowns worldwide have made a mess of education delivery systems in a short space of time. Worthy of note, all learning institutions and most industries were temporarily placed under lock and key due to the virus. The disease made all physical forms of work that did not respect social distancing undesirable, including the education system. Traditional face-to-face teaching and learning suddenly became immaterial and invalid. During the COVID-19 period, old forms of teaching and learning were halted in Zimbabwe and elsewhere. Midway through the first semester of 2020, all teaching and learning went online. First-year students were yet to come in later in August of the same year.

This development prompted all the interviewees to acknowledge that Education 5.0 came with higher-order demands. It was observed that the initial curriculum review started with a focus on face-to-face teaching and learning; nothing more, nothing less. Fate has since taken its toll. At once, the local Education 5.0 decree was caught unaware by the need to embrace the IoT: online teaching and learning. When asked to clarify how Education 5.0 had responded to the emergence of COVID-19 in teaching and learning, interviewees stated it was problematic.

Interviewee 3 argued that:

It's a situation which will require the demonstrator to spot where the student is failing... There is a need for repetition, and there is a need for a stretch of time to allow the skill to actually get into the student's system. This can only be perfected by the regular intervention of the demonstrator, and in the case of virtual learning, there is a total absence of that.

Similarly, Interviewee 1 said:

We reviewed the curriculum before the pandemic... We were focusing on emphasising Education 5.0 in the classroom... We had not focused on moving into a mode where they were not in the classroom. We were only complementing the classroom teaching when we reviewed our curriculum to emphasise Education 5.0.

The preceding sentiments are a direct confirmation that online-assisted Education 5.0 in higher education has a long way to go in Zimbabwe. Nonetheless, the need to produce industrialists through higher education training remains unwavering. This complements [3] views that 21st-century curriculum reform is mindful of the value of didactic aims and instructional methods that prepare learners for real industry experience. This led the MHTESTD to adapt to Education 5.0. Yet, Interviewee 1 further noted that help services for VLEs in Zimbabwe are low. One scholar's projection is that for globalisation and industrialisation to take place, ICT should be part of everyday teaching and learning [26].

Interviewee 3's view was also inconsistent with [17, 15], who argued that the inclusion of advanced ICT was a prerequisite in higher education and training for innovation and industrialisation to be realised. It was noted that most students cannot afford to go online for teaching and learning purposes. Access to and use of VLEs, for example, has proven difficult as a practical requirement of Education 5.0. Both lecturers and students are financially handicapped and cannot necessarily

use VLEs for the purpose of teaching and learning. Network and power outages in Zimbabwe are serious issues that hamper the full, efficient, and effective use of VLEs, even for those few students and lecturers who can afford it. Beyond the reach of many are the technological gadgets they need to help them maximise the effectiveness of online teaching and learning, such as computers and smart phones. Interviewee 1 mentioned:

Accessing resources from a student perspective is a problem. I'm a parent. I'm a lecturer. I look at the cost involved in this whole idea of VLEs. How many Zimbabweans can afford to buy the equipment; a laptop for a student; a smart-phone; and then the Wi-Fi; the same student requires fees, food, and housing; and he or she is not the only child in the family. Look at the incomes of the majority of people in Zimbabwe. My challenge is determining how to meet the student halfway while also addressing the issue of resource availability versus income levels in our population.

The interviewee added:

I want them to read my notes on the portal. They need to buy data bundles to access the Internet. How much is the mobile data plan per day? Can a student have money to spend on data? Can we afford that? As a university or country, we are challenged. What are we doing to help the situation? We have heard about provincial resource centres to alleviate or meet half the challenges we are meeting on VLEs. There is nothing. I think there is a lack of support in the area of VLEs. For our population, it is missing, and it is very difficult for us to help our students. For example, regardless of the size of the class, only a quarter can complete the assignment online while the rest prefer to submit hardcopies or wait until they return to campus and have access to the Internet or Wi-Fi to complete the assignment(s). That makes it very difficult for me to mark assignments on time and prepare for exams at the same time. So, the reality of what we think we can achieve with VLEs is different from what is on the ground. The reality is that most of our students cannot access learning materials on their online portals due to the cost implications that characterise online teaching and learning.

The relevance of VLEs is also hampered by a lack of financial support from the government in the form of student grants and sponsorships in HEIs for them to learn online. This further points to the fact that Education 5.0 during COVID-19 remains largely unattainable. This agrees with [17]'s projection that African governments still find it difficult to commit resources towards the evolving models of education. Interviewee 1 also admitted all this disaster is being experienced because the government of Zimbabwe imposed VLEs upon educational institutions. However, it was not like CUT was totally taking a new route.

I would want to say, yes it was prescribed, but it does not mean that the school or the department was looking totally in a different direction from that. As a school or department, we were also looking at using the VLEs for teaching. In fact, we have been using VLEs in the past. But, where we are now speaking of these things being prescribed to us is when we were asked to speed up the use of VLEs. Before the coming of COVID 19 and Education 5.0, we were using VLEs. We were not following the 80 percent to 90 percent proportion that is now followed. In the past, we would use VLEs to distribute the notes and assignments and some of the general discussions with students. However, we reserved the demonstrations and serious lectures for in-person encounters. When VLEs came, we found ourselves in

a situation where we were told to do most of the things or everything through VLEs. That's where we end up talking about this thing being prescribed for us.

In the teaching and learning processes, the feasibility of the government's statement on the adoption of Education 5.0 was tantamount to the infiltration of VLEs. Further, Interviewee 3 lamented the disgust that came after the outbreak of COVID-19 with the imposition of VLEs and Education 5.0. Interviewee 3 also said that both students and lecturers lack ICT skills, therefore it is difficult to regularise VLEs at HEIs quickly.

The two exist; they may be oil and water in the sense that if you want somebody to be practically sound in terms of skills, then there is the issue of online learning. It is not feasible; somebody has to be there simulating, and that does not always work. Somebody has to be there face-to-face with learners. Yes, there are aspects that we can say with VLEs can be possible, but for some, life is very difficult; it doesn't work.

Zimbabwe still has issues with nationwide Internet access. Students travel long distances to study at local HEIs. These areas have few or no Internet-access facilities installed, nor do they have the electronic gadgets needed to run VLEs. Distance education demands that colleges and universities be technologically rich. The inaccessibility of digital resources makes VLEs irrelevant in the education sector. However, to further guide the overhaul of virtual higher education teaching and learning, the issue emerged as one of the major challenges that impinged upon Education 5.0 after the outbreak of COVID-19.

6. VLE support systems

The interviewees also lamented how VLEs can support the practical constituents of Education 5.0. They all held that the government is not concerned with issues of research on the viability of VLEs in Education 5.0 exercises in the country.

In different interview sessions, Interviewees 1 and 2 were worried about the absence of proper research on the inclusion of Education 5.0 and VLEs. Interviewee 1 observed:

In terms of support, I don't think we are serious as a country. We are not creating a conducive environment for us to use VLEs. What we are doing is pretending that things are moving when they are not. You need to do research so that you don't produce substandard students at the end. From the... VLEs lectures conducted so far, learners have grasped or learnt nothing at all. And we insist we want VLEs without having evaluated the VLE lecture experiences so far. We should have evaluated how students who participated in such online classes grasped both the theoretical and practical teaching virtually. Then we could see how effective it is and move.

Interviewee 1 added:

So, we need to make concerted efforts where the institution, the ministry, and the government look at things objectively. Yes, we are rushing to say they must cover all the learning virtually. But we are flogging a dead horse. With VLEs, we are finding it foolhardy to make learning a continuous process. Learning must be continuous, but my experience with VLEs is that it's continuous academic coaching with little

or no effective learning taking place. This is because we do not have adequate resources to support our VLEs. Look at the practical subjects.

How are VLEs supporting the practical component? Yet, these are the courses that help us make the products that are going to emphasise innovation and industrialisation. What skills have we given them online? What have we done to impart the skills? Even if we go through our VLEs, what is there to impart skills or support skills acquisition? There is nothing. What you get is the theory or methodological component. We have a skills deficiency and that deficiency will kill innovation and industrialisation.

From the evidence gathered, the MHTESTD opted to go it alone in deciding how Education 5.0 should be executed virtually in HEIs. Lecturers from different local HEIs should have been taken for exchange programmes on how Education 5.0 and VLEs can be attached. That has been pertinent in countries like Malaysia, Germany, and China. This would have gone a long way in equipping higher education and training educators with the VLE skills needed to make them able to teach online effectively and efficiently, particularly for Education 5.0. Notably, the modernisation of the university curriculum in Malaysia has been characterised by the inclusion of a variety of projects and technologies for it to be a success. Unlike in Zimbabwe, as stated by Interviewee 1, Malaysian local and international industry groups were invited to give webinars, seminars, and workshops to academic practitioners so that they would turn out to be technologically and industrially compliant [20].

The interviewee argued that research is key when it comes to the need to merge VLEs with teaching, research, community service, innovation and industrialisation. When it comes to VLEs, there was supposed to be enough research in terms of the person who is going to deliver and the person who is going to receive via these platforms to be all equipped. At the same time, whatever we are going to use as a medium for communication, is it effective enough so that whatever we want to do succeeds? So, the issue of VLEs at a localised level may work, especially for a few well-resourced people. At the moment, there are many hitches.

Interviewee 3 said:

I admit, we still have challenges. Of course, as we prepare our module outlines, lecturers are encouraged to design them so that students are guided on the activities that they need to do to build on their skills, particularly hands-on skills. But, the challenge is that the nature of some of the modules is such that as the student is taught new skills and given an instruction, a syntax of how an operation is done is also given. The gist of teaching when it comes to practical skills is in allowing the student to do an operation while the lecturer or demonstrator watches.

In the process, lecturers will identify in which areas the student is doing it correctly and in which areas the student is doing it incorrectly, and then they will re-demonstrate again and again. It is not something that can be done through a syntactic manual, and it allows the students to perfect their skills without the regular intervention of the demonstrator. The situation requires the demonstrator to spot where the student is struggling or failing. Also, some skills require high mental engagement and psychomotor skills from the student.

Interviewee 3 further noted that:

Of course, some lecturers have tried to demonstrate using films, sometimes borrowing films from YouTube here and there. Some lecturers have tried to upload films that they have made. But, still, they will not be able to do it the way it will be done in face-to-face interactions between students and lecturers.

From the preceding statements, it appears that online and offline-assisted teaching and training have a long way to go in Zimbabwe. The interviewee mentions the need to virtually give students skills that will help them innovate and industrialise in the future. Interviewee 1 stated:

Our students were exposed to these (VLEs) before COVID 19, and we were interacting with them all the time on WhatsApp. To give them notes, to give them assignments, and that's part and parcel of the VLEs ... If you look at this new thing now, we are saying more than 75% of the time they are learning online. I think we need to look into the challenges as universities. What are the challenges our students are facing? Are they really benefiting from VLEs? How many of them are benefiting? To what extent? This is because, in the current situation, we have seen so many challenges in online teaching and learning.

So, let me answer the how part of it. We have incorporated the VLEs at our university. Besides, we use their personal emails. Why personal, individualised instructions? Some students may not be able to grasp what I have given via the university portal, and they may want to interact with me on a different platform. We go ahead and do that. One other student may not be able to access his or her university portal but may check his or her email. That can also complement our use of social media.... Looking at our resource constraints as students and lecturers, we all know that at times we cannot get the Internet or Wi-Fi. But, when you get it, then you can use any platform that is easier for you or more accessible to you.

Currently, VLEs are not effective and efficient for the purpose of Education 5.0 teaching and learning at CUT. However, 20% of interviewees contended that there was no difference between face-to-face teaching and online teaching. Whether you teach face to face or online, it makes no huge difference to the content that you teach. "I teach the same content in both instances," argued Interviewee 1. This implies some lecturers have no problems when it comes to conducting both online practical and theoretical lectures. In this instance, VLEs are not entirely a threat in the DCAD at CUT.

7. Conclusions

The relevance of new higher education approaches in Zimbabwe has been proven to be unstable following the outbreak of COVID-19. Education 5.0 still demands a lot in terms of commitment on the part of the lecturers in HEIs, though they argue it is not a new development in their day-to-day work. It further emerged that Education 5.0 was adopted without considering unplanned developments such as COVID-19, a disease that changed the status of teaching and learning. The pandemic called for the use of VLEs since all teaching and learning has become predominately virtual. The disease has made online teaching and learning mandatory in Zimbabwe. The cost implications of VLEs are extensive and only a few learners can afford the resources needed to participate in VLEs. Supporting digital equipment for the purpose of teaching and learning is expensive. This research concludes that a handful of graduate students may finish their higher education and

training with the requisite skills needed in industry. It is therefore recommended that Zimbabwean HEIs return to the previous Education 3.0 model until the global economy has been balanced.

A. Appendices and nomenclature

What is your professional understanding of Education 5.0 in higher education?

What aspects of Education 5.0 are emphasised in the curricula?

What is its importance?

What strategies did you use to make Education 5.0 suitable for VLEs?

What is the relevance of VLEs in higher education and training?

In what ways did your academic experience influence the selection and exclusion process of VLEs?


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Mapping the Policy Regulatory Environment of Transnational Education (TNE) in the Ghanaian Tertiary Education System

Francis Ansah, Hope Pius Nudzor, Gloria Nyame and Ophelia Affreh

Abstract

Given the critical role of public policy in TNE arrangements of countries, and the fact that TNE partnerships are growing steadily in the Ghanaian tertiary education sector, a robust and resilient public policy environment is imperative. However, the public policy environment of TNE partnerships in the tertiary education sector in Ghana is unexamined by any scientific study to guide decision on TNE partnerships in Ghanaian tertiary education institutions (TEIs). Against this backdrop, this chapter examines the level of influence of public policy frameworks on TNE partnerships in TEIs in Ghana to ignite a national discourse on TNE regulation. A multiphase mixed-method research design, informed by exploratory and explanatory sequential designs was adopted for the study. The findings reveal that TNE partnerships are an emerging concept in the Ghanaian tertiary education system with less than 20% of the over 200 TEIs engaged in TNE partnerships. More importantly, the findings indicate that the policy environment of TNE partnerships of TEIs in Ghana is not sufficiently robust because no tailor-made policy regulatory frameworks exist to regulate TNE partnerships in TEIs. To this end, the study concludes that the existing policy regulatory frameworks for the Ghanaian tertiary education system are incapable of helping the country maximise the full benefits of TNE partnerships by ensuring win-win situations for TEIs engaged in TNE partnerships. In view of this, the study recommends that the government should develop a tailor-made policy framework for regulating TNE partnerships in Ghanaian TEIs.

Keywords: Policy Regulatory Framework, TNE, Tertiary Education, Ghana

1. Introduction

Increasingly, governments have come to recognise the wealth of benefits available from international engagements, and the importance of national support for this, if their tertiary education sectors are to be successful. In pursuance of this important goal of international education, many universities across the globe have resorted to pursuing new modes of international engagement, including online delivery and engagement in a proliferation of partnerships for offshore programme delivery, whilst at the same time, transnational education (TNE) has come to assume increasing importance as an

international education delivery strategy [1]. In all this, transnational education has become a core element of nations' "tertiary education as business" philosophy [2], and is a defining characteristic of the transition of universities into 'multi-million-dollar academic enterprises' reliant upon 'flexible internal and external networks in partnership with businesses, communities and other universities [3].

Consequently, in today's globalised world, TNE including transnational tertiary education (ITE) has become a policy preoccupation for many countries, and the provision of tertiary education to students from 'other' countries remains a critically important role for the vast majority of tertiary education institutions [4]. Tertiary education is used as umbrella term to cover all forms of post-secondary education including education offered by universities. The role of public policy and regulations in the development of tertiary education cannot be over-emphasised. The tertiary education sector is one of the key sectors in modern societies that requires the right public policy regulations in order to play its critical role in society effectively [5]. The debate about tertiary education as public good is still unresolved but the need for right public policy framework to empower tertiary education systems and institutions to deliver on their mandates successfully does not seem to be in contention [6]. Public policy is generally viewed as a broad course of action that guides the behaviour of governments, organisations and individuals. A policy might be a law, or a regulation, or a set of all laws and regulations that govern a particular issue area or problem [7].

Given the critical role of public policy in TNE arrangements of countries and the fact that TNE partnerships are growing steadily in the Ghanaian tertiary education sector, a robust and resilient public policy environment is imperative. However, the public policy environment of TNE partnerships in the tertiary education sector in Ghana is unexamined by any scientific study to guide decision on TNE partnerships in Ghanaian tertiary education institutions (TEIs). Against this backdrop, this chapter examines the level of influence of public policy frameworks on TNE partnerships in TEIs in Ghana to ignite a national discourse on TNE regulation. This chapter is an outgrowth of a British Council, Ghana sponsored research project undertaken between 2019 and 2020 by the Institute for Educational Planning and Administration (IEPA) of the University of Cape Coast, Ghana [8]. The original research project on which this chapter is based investigated transnational education (TNE) partnerships and the environment of distance learning generally in TEIs in Ghana. The rationale for this research endeavour essentially, was to provide insights into the state of tertiary education (TE) in Ghana.

The overarching aim of the study was to support both Government of Ghana and her international development partners in identifying the key areas where they could work to improve the quality of, and access to Ghanaian TEIs, while at the same time providing her international development partners with value in the form of qualitative and/or economically beneficial partnerships. The focus of this chapter is on how the Government of Ghana's education policy frameworks have influenced, and still continues to influence the development of TNE partnerships in the country. This chapter addresses two of the research questions that guided the study. The first of the two research is "what are the existing policy frameworks in Ghana's tertiary education sector post-independence?" The second research question that this chapter addresses is "how have the existing public policy frameworks influenced, and still continues to influence the development of TNE partnerships in the country?"

The rest of the chapter is organised in this order. The next section (2) provides a portrait of Ghana's tertiary education landscape to put the chapter in context. This is followed by the study's research approach and methods in Section 3. Thereafter,

the findings are presented in Section 4 and Section 5 discusses the findings before the concluding thoughts are provided in Section 6.

2. Ghana's tertiary education portrait and TNE context

In Ghana, post-secondary education sector until the 1990s consisted of only universities offering undergraduate and post-graduate degree programmes, and the sector fitted at least a theoretical description of tertiary education. However, in the 1990s, polytechnics in the country were elevated to a tertiary status to train middle level manpower for accelerated economic growth and development because the universities were focused on producing top level managerial and academic staff and researchers but not middle level technical staff. Since then, other institutions have been elevated to tertiary status, and therefore, tertiary education in Ghana today is the umbrella term for all forms of post-secondary education. As a result, Ghana runs a binary tertiary education system made up of universities and non-university institutions [9]. The universities, hitherto, constituted the tertiary education component of the tertiary education sector in Ghana because they were the only institutions that had the mandate to offer and award post-graduate degree programmes. This has changed because currently eight out of the 10 polytechnics in the country have been re-designated as technical universities which enables them to offer and award post-graduate degree programmes just like the traditional universities. Instructively therefore, tertiary education (and by extension tertiary education vis-à-vis international tertiary education) provision in Ghana is for Ghanaian citizens and is intended arguably for their prosperity and increased productivity.

Presently, the Ghana Tertiary Education Commission (GTEC) puts the number of duly accredited tertiary institutions at 298, comprising 151 Private Tertiary Education Institutions, 141 Public Tertiary Education Institutions, One Regionally-Owned (West Africa) Tertiary Institution and Five Registered Foreign Institutions [10]. In fact, until the year 2000, less than seven public and three private institutions were accredited as tertiary education institutions. It is evident the most of the tertiary education institutions were accredited as such during the millennia.

Currently, signs of TNE partnerships are quite visible within the Ghanaian tertiary education system. Ghana has, for the past two decades, positioned herself as one of the major providers of quality tertiary education (HE) in sub-Saharan Africa. During this period, Ghana's tertiary education institutions (TEIs) have opened their doors to students and faculty of countries within the sub-region, notably: Nigeria, Cameroon, Guinea and some East African Countries. This trend has seen Ghanaian tertiary educational institutions (TEIs) develop as regional hubs of education. Current international enrolment stands at 3,207 students for public funded tertiary institutions and 11,978 for privately funded tertiary institutions [11]. In fact, the official website of the National Accreditation Board (NAB) lists the institutions that are in some form of TNE partnership with TEIs across the country. These include: Business University of Costa Rica, (Kumasi); IPE Management School, France (Accra); Edinburgh Business School (EBS), Harriot Watt University (Accra); University of Sunderland, UK (Accra); Swiss Management Centre (Accra); Lancaster University College (Accra); and Webster University College (Accra).

Whilst these provide some promise of the birth of TNE partnerships in the country, the preponderance of educational research evidence available points paradoxically to the state of TNE partnerships in the Ghanaian tertiary education (HE) as shrouded in obscurity. To put this rather succinctly and bluntly, the wheel of tertiary education policy development in the country to govern and regulate the sector generally grinds very slowly [11]. This has caused (and still

continues to encourage) dissensions among participants, employers and stakeholders of tertiary education regarding issues of quality assurance, governance, regulation and adherence to international best practices.

It is against the backdrop of these issues, particularly the lack of policy and research to govern and regulate TE, and the dearth of information relating generally to the state of TNE partnerships in the Ghanaian context, that the research study on which this chapter is based was commissioned. The intention fundamentally was to 'awaken' the Ghanaian TE system through research to get the right things done to bring Ghana into the comity of nations involved in the 'tertiary education as business' philosophy [1] to accrue the needed benefits for itself and its citizens. In this regard, the research on which this chapter is based has investigated the public policy environment of TNE in TEIs in Ghana, looking specifically at international education partnerships.

3. Study methods

To help generate evidence-informed findings to address the research questions posed for the original research on which this chapter is based, a multiphase mixed-method research design, informed by exploratory and explanatory sequential designs was used to explore and understand in-depth existing TNE partnerships in Ghanaian TEIs [8]. The exploratory sequential segment of this design was characterised by an initial qualitative phase of data collection and analysis (mainly through document analysis and literature reviews to provide context for TNE partnership in Ghanaian HEIs/TEIs and to guide the development of data collection instruments). This was followed by a phase of quantitative data collection and analysis, with a final phase of integration or linking of data from the two separate strands [12–14]. The explanatory sequential segment of the multiphase mixed-method research design, on the other hand, consisted of first collecting quantitative data and then collecting qualitative data thereafter to help explain or elaborate on the quantitative results [14]. The justification for this design lies in the fact that the quantitative data and results provide a general picture of the research problem; but that more analysis specifically through qualitative data collection is needed to refine, extend or explain the general picture (Creswell & Plano Clark, 2011). The use of multiphase mixed-method research design helped, first of all, to collect and analyse qualitative data (in the form of document analysis and literature reviews) and then based on the qualitative findings, to develop the quantitative aspect (i.e. survey) of the study. This process then led to the collection and analysis of quantitative data, which was then followed by the collection and analysis of qualitative case study data from multiple sites, and finally, the overall integration, interpretation and reporting of the findings of the study.

The sample for the research project on which this chapter reports comprised Ghanaian TEIs and regulatory bodies involved in tertiary education (TE) administration in Ghana. In selecting the sample, census, purposeful random and criterion sampling techniques were employed. First, census sampling technique was employed to study the entire population of TEIs to profile them. Second, purposeful random sampling technique was used to sample one hundred and two (102) TEIs for a quantitative survey. Third, the criterion sampling strategy (with the help of 'screening questionnaires' employed as the first phase of the survey) was used to select twenty-eight (28) TEIs involved in TNE partnerships for a second phase of quantitative survey regarding the nature and scope of their existing partnerships. Fourth, the purposeful sampling technique was used to select 17 TE actors/officials for multi-site case study interviews regarding their respective institutions' experiences and roles

in TNE partnerships. Thus, the various sampling techniques used enabled key actors and institutions with rich information about TNE partnerships within the TE sector in Ghana to be sampled for in-depth study and analysis.

Owing to the composite data collection intent embedded within the variant of the mixed-methods approach adopted for the study, data was collected using document review guide, self-administered questionnaires and open-ended semi-structured interview guide. The document review guide, consisting mainly of a checklist, was designed and used to identify and select relevant documents (e.g. policy documents and regulations, institutional reports, data files, journals on tertiary education and other written artefacts) needed for initial scoping and literature review for the purposes of the study. Two sets of questionnaires were used to collect data from participating institutions. The first set of the questionnaire was used to screen 102 participating institutions regarding their involvement or otherwise in TNE partnerships. The second set of the questionnaire was used as a follow-up activity for the 28 TEIs that indicated they were in some form of TNE partnerships regarding the nature and scope of their existing partnerships. The semi-structured open-ended interview guide, on its part, was used to collect relevant qualitative data through face-to-face interviews with 17 actors/officials (e.g. representatives of regulatory bodies, International Relations' Offices/Registrar's Offices and Heads of Departments of TEIs) involved in HE administration in Ghana.

Data collection procedures relating to access to the TEIs across the country was facilitated by the British Council, Ghana prior to the research team going to the field for data collection. This took the form of emails and letters sent by the British Council, Ghana to all the institutions to be involved in the study two clear weeks before the research team embarked upon data collection. In addition, personal introductory letters were given to the field officers to be delivered to the institutions to enable them to grant them access to the TEIs for the purposes of data collection. In all, the country was divided into zones for data collection purposes, and research data was collected in three phases. Phase one involved desk review of relevant policy documents, empirical literature and technical and institutional reports to provide the context and theoretical support for the research. Phase two constituted a cross-sectional survey involving the collection and analysis of quantitative data from 102 TEIs about their involvement (or otherwise) in TNE partnerships with reasons. Phase three, which was sub-divided into two stages, comprised a follow-up survey conducted with 28 TEIs, and in-depth multi-site case study interviews conducted with 17 officials selected regarding the nature and scope of their TNE partnerships.

The analysis of data collected was undertaken based on the three phases of data collection outlined. First, the textual data collected through document and literature reviews were analysed thematically through processes of skimming (superficial examination), reading (thorough examination), and interpretation. Second, the survey data collected was organised and analysed using Mean Scores to measure participants' agreements and disagreements with existing national tertiary education policies' influence on TNE partnership arrangements in the institutions. Third, the analysis of interview transcripts generated through the multi-site case study interviews was analysed manually using a thematic approach to qualitative data analysis [15]. Thus, the thematic analysis used in this study involved a careful, more focused re-reading and review of the data, which involved taking a closer look at the selected data and coding and categorising the data based on the data's characteristics. The thematic analysis facilitated a more nuanced comparison within and across cases using to uncover themes pertinent to regulatory policy framework on TNE partnerships in TEIs in Ghana.

4. Findings

In this chapter, research findings relating to existing TNE partnerships and policy regulatory frameworks in Ghana's tertiary education system and how the policy regulatory frameworks have impacted the TNE partnerships are presented around two research questions. The first of the two research questions map the existing TNE partnerships TEI and policy regulatory frameworks in Ghana. The second research question examines participants' views regarding how the Government of Ghana's education policy regulatory frameworks have influenced, and still continues to influence the development of TNE partnerships in the country. The findings to both of these questions are presented below and they are subsequently discussed in Section 4.

4.1 Existing TNE partnerships in TEIs in Ghana

The first research question sought to identify TNE partnerships that exist in the Ghanaian tertiary education institutions. **Figure 1** presents TEIs in Ghana that are engaged in TNE partnerships disaggregated by public and private TEIs.

Figure 1 indicates as at 2019 when this study was conducted, 28 TEIs were found to be engaged in TNE partnerships and majority (71%) of them are private TEIs.

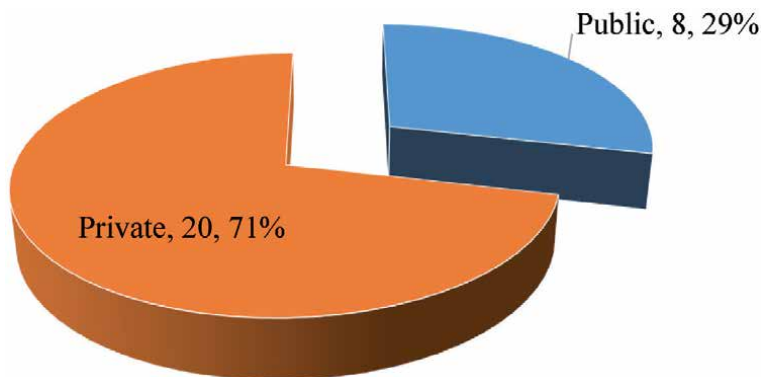


Figure 1.
TEIs with TNE partnerships.

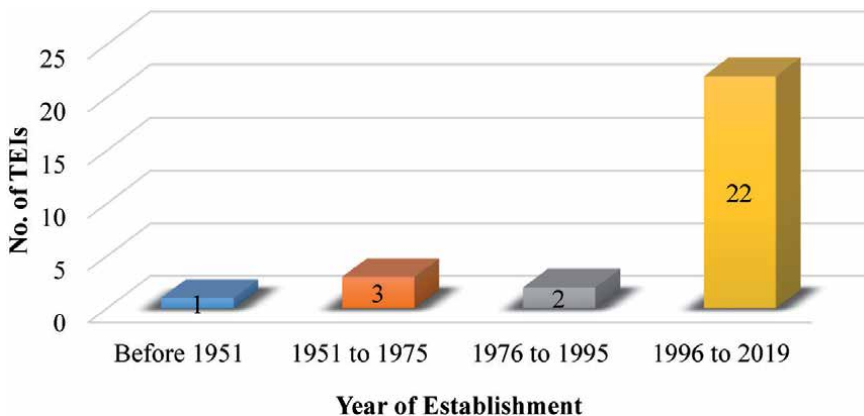


Figure 2.
Year of establishment of TEIs with TNE partnership(s).

From **Figure 2**, six of the TEIs engaged in TNE partnerships were established and accredited as such before 1996. 22 of the TEIs with TNE partnership arrangements were established and accredited from 1996 to 2019.

4.2 Existing policy regulatory environment of tertiary education in Ghana

The mapping of post-independence policy environment of the Ghanaian tertiary education system yielded a number of policies and regulations that directly and indirectly regulate the sector. These policies and regulations emanate from national and international levels. **Table 1** presents these policies and regulations.

Table 1 shows that the study identified 13 tertiary education relevant policy regulatory frameworks have existed from 1951 to 2019 to guide tertiary education delivery in the country. 10 of these policy frameworks have been produced at the national level whilst three of three of them were identified at the international or global level.

4.3 Policy and regulatory influence on TNE partnerships

This study also examined the level of influence of policy and regulatory frameworks on TNE partnerships in TEIs in Ghana to ignite a national discourse on TNE regulation. The second research question examined broadly participants' views regarding how the Government of Ghana's education policy has influenced, and still continues to influence the development of TNE partnerships in the country.

In **Figure 3**, the survey results on whether the identified policy and regulatory frameworks have influenced TNE partnerships of respondents' TEIs are presented. The interpretation of **Figure 3** is also guided by a decision rule. This rule specifies that, Mean Scores from 1.00 to 1.75 and 1.76 to 2.50 indicate that the TEIs *strongly*

S/N	Policy regulatory framework	Emanating from
1	The Accelerated Development Plan of 1951 and Education Act of 1961	national level
2	The 1966 Reforms of the National Liberation Council and higher education policy	national level
3	The 1987 Education Reforms and higher education policy	national level
4	The 1992 Constitution	National level
5	The National Council for Tertiary Education Act 454 of 1993	National level
6	The National Accreditation Board PNDC Law 317 of 1993/Act 744 of 2007	National level
7	National Board for Professional and Technician Examinations Act 492 of 1994	National level
8	Ghana Education Trust Fund (GETFund) ACT 581 of 2000	National level
9	Student Loan Trust Fund Act 820 of 2005	National level
10	The Disability Act, 2006. Act 715	National level
11	The Universal Declaration of Human Rights (UDHR), 1948	international level
12	The Convention on the Elimination of all forms of Discrimination against Women (CEDAW) 1979	international level
13	United Nations Convention on the Rights of Persons with Disabilities (UNCRPD, 2006)	international level

Table 1.
 Existing policy regulatory frameworks in Ghanaian TE System: 1948–2019.

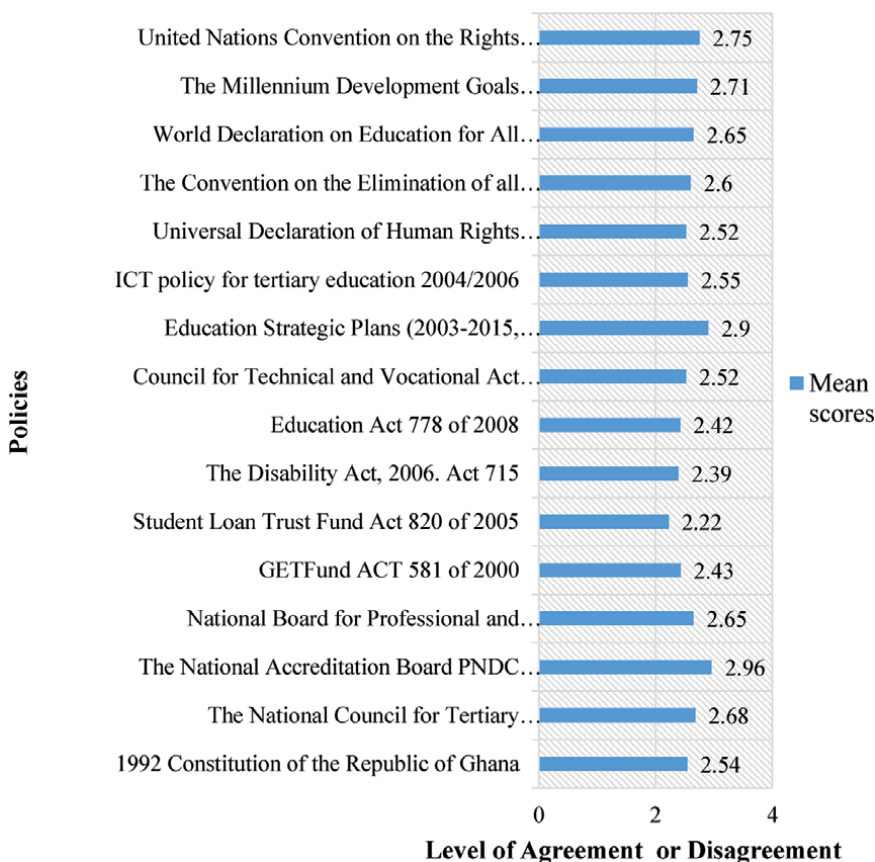


Figure 3. Respondents' level of agreement or disagreement about policies that influence TNE partnerships.

disagreed and *disagreed* respectively that a particular policy regulatory framework has had any influence on their TNE partnerships. Conversely, Mean Scores from 2.51 to 3.25 and 3.26 to 4.00 show that the TEIs *strongly agreed* and *agreed* respectively that a particular policy or regulatory framework has had any influence on their TNE partnerships respectively.

The survey result from **Figure 3** shows that the policy regulatory framework in the Ghanaian tertiary education sector with the highest influence (Mean Score of 2.96) on TNE partnerships of TEIs in the country is the establishment of the National Accreditation Board (PNDC Law 317 of 1993/Act 744 of 2007). The remaining policies have had none or at best minimal influence on TNE partnerships of the TEIs because the Mean Score is less than 3.25.

The in-depth interviews corroborated the survey findings because most interviewees who indicated some level of policy or regulatory influence on their TNE partnerships mentioned mostly the National Accreditation Board (NAB), and in some few instances, the National Council for Tertiary Education (NCTE), but even that they implied that this level of influence was limited to TNE programme accreditation only. This claim is evidenced by the following excerpts from the in-depth interviews:

I think it is an area that I will say the NCTE and NAB have not really delved deep into. We realised that for most of the foreign institutions coming down, hardly do they have something to do with these organisations, which are supposed to be

checking them. At the moment, these foreign institutions have not been given any regulatory framework (Senior Officer of Private TEI 6).

Now, we do not do anything unless we get accreditation from the NAB and the NCTE and the affiliated professional bodies like the Nurses and Midwifery Council, Medical and Dental Council and Public Health and Allied Health Council (Senior Officer of Public HEI 1).

...If an institution and programmes are not properly accredited by the national accreditation law (PNDC Law 317 of 1993) and the subsequent Act of 2007 and we send our students there or allow their students to come, they cannot get our certificates (Senior Officer of Public HEI 3).

NCTE and NAB are aware of what is happening in our institution, and they regulate us in a way (Senior Officer of Public HEI 5).

We are subject to NAB in terms of programme accreditation but normally the ABE is being regulated by institution form UK (Senior Officer of Private HEI 4).

Many more interviewees of TEIs made similar statements. Others even claimed that no policy regulatory framework, whether national or international, existed to regulate TNE partnerships in their institutions. One of the interviewees representing tertiary education regulatory bodies had this to say,

It is not really regulated, we do not have guides and laws; however, we are developing a new TNE policy that has been presented to stakeholders but has not been finalised. For now, the foreign institutions have to register with NAB and the programme has to be accredited (Senior Officer of Regulatory Body 1).

Another interviewee for one of the premier universities in the country agrees with this view. He/she captures it this way,

I do not know if they are working on something, but as I said earlier on, there is no regulatory framework governing us (Senior Officer of Public HEI 2).

Another interviewee of a regulatory body who did not want to mince words puts it rather bluntly and forcefully:

No policy exists for TNE in this country as far as I am concerned (Senior Officer of Regulatory Body 4).

One representative of a private universities in his/her interview session also adds that:

...We only have memoranda of understanding for the establishment of such partnerships; meanwhile, everything should be within the regulatory framework (Senior Officer of Private HEI 3).

5. Discussion

TNE partnerships in tertiary education are inspired by a business philosophy and an entrepreneurial orientation [2, 3]. In view of this, it is plausible to argue,

based on this finding, that private TEIs in Ghana are more entrepreneurial compared to the public TEIs because over 70% of existing TNE partnerships are private TEIs. This finding confirms Ansah and Swanzy [16] finding in their study that private tertiary education institutions in Ghana are not funded by the state and therefore have high entrepreneurial tendencies. These entrepreneurial tendencies have implications for the quality of tertiary education provision in the country because entrepreneurship carries profit motives that could compromise quality. This is why appropriate policy regulatory frameworks are required to ensure that sanity is maintained around TNE partnership relationships. In another vein, appropriate TNE regulatory policy frameworks for tertiary education in Ghana should be able to encourage public TEIs to increase their TNE partnership portfolios in areas that maximise the benefits of TNE in tertiary education.

Given that, the strongest influence of a policy regulatory framework is a Mean Score of 4.00, it safe to argue that even the National Accreditation Board policy regulatory framework, the only policy with influence, represents a weak influence regarding TNE operations in TEIs in Ghana because its Mean Score of 2.96 is just a little above the minimum influence represented by a Mean Score of 2.56. The findings from the survey and the in-depth interviews have also demonstrated that the environment of TNE in the Ghanaian tertiary education sector looks like what Verbik and Jokivirta [17] describe in regulatory terms as 'liberal regulative', because foreign providers must satisfy certain minimum conditions prior to commencing operations: for example, official recognition in the home country. This is consistent with Ghana's Minister of State responsible for tertiary education, Professor Kojo Yankah's claim that Ghana lacks comprehensive tertiary education policy [18]. The obvious implication for this liberal regulative TNE environment existing in Ghanaian TEIs is that the tertiary education sector could get flooded with TNE partnerships which have the potential to supply quality tertiary education to underserved sections of the Ghanaian society or soil the integrity of the existing quality tertiary education with poor quality provision.

6. Conclusion thoughts

In this chapter, research findings relating to how Ghana's TEI policy and regulatory framework has impacted TNE partnerships have been presented and discussed around two research questions. The first of the two research questions mapped the existence of TNE partnerships and policy frameworks in the Ghanaian tertiary education system. The second research question, on the other hand, examined how the Government of Ghana's education policy has influenced, and still continues to influence the development of TNE partnerships in the country.

The finding to the first research question indicates that the only policy and/or regulatory framework that appears to have some influence on TNE partnerships of TEIs in Ghana is the policy and/or law that established the National Accreditation Board (i.e. PNDC Law 317 of 1993/Act 744 of 2007). Even with this, the finding suggests that this law (and by extension NAB) has or represents a weak influence regarding TNE operations in TEIs because its level of influence was limited to TNE programme accreditation only.

Against this backdrop, this chapter concludes that TNE is an emerging concept in the Ghanaian tertiary education landscape with so much potential to grow and address the deficit in quality tertiary education supply. Essentially, it can be discerned immediately that Ghana stands to benefit from high quality TNE partnerships in its tertiary education sector just as the good reputation can also get eroded by low quality TNE partnership programmes. However, and as the insights from the


study have shown, there is an urgent need to enact appropriate policy regulatory frameworks to regulate TNE partnerships to put future TNE partnerships on a more secure footing to ensure that there are always win-win situations for TNE partnership agreements signed by TEIs in Ghana and their foreign counterparts.

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Section 3

Digitalization in a Global
Environment

Adoption of Online Learning during the Covid19 Pandemic Lockdown by Universities in Garowe

Tumwebaze Alicon Auf and Omer Abdi Hamdi

Abstract

In response to the Covid-19 outbreak the world closed and therefore countries like Somalia have not been exceptional. The government of Somalia and all higher education institutions adopted crisis intervention measures on implementation of blended learning approaches like online teaching and learning. In this chapter we explore the process and challenges of adopting online learning in response to the world wide lockdown due to the pandemic. Given that this was an abrupt requirement, the survey was interested in finding out whether universities adopted and adapted easily. Researchers compared findings from previous studies and theoretical inclinations on online learning. Results indicate that the adoption of online learning among universities in Garowe was as a matter of crisis management whereby administration, lecturers and students were all not ready and had no prior grounding in this pedagogical learning platform. Just like previous studies online learning implementers have continued to encounter several challenges like intermittent internet network, cost of gadgets and facilities, inadequate skills of both the instructors and students, aspects of communication and satisfaction from stakeholders. With the research survey in Garowe, results show that this is still pervading and therefore need for more rigorous contextualised research on this subject.

Keywords: Online learning, Covid19 Pandemic Lockdown, Process and Challenges of Implementing

1. Introduction

The outbreak of the coronavirus that resulted into the Covid-19 pandemic is a socio-economic crisis that has taken the world by surprise. With too much uncertainty even after over a year in existence, world powers are still betting on a reliable and valid solution but in vain. The virus continues to reign on crippling economic and health systems all over the world. The indiscriminate ravage of the disease has not spared even the developed regions of the world where the health impact seems worse than the underdeveloped and developing world. According to ILO, WB [1] the lockdowns and social distancing measures accruing from the pandemic have disrupted provision of education and all related academic training although creating opportunities for innovation in distance learning. Among the most affected

sectors is education since there was closure of schools and other institutions of learning. These institutions of learning tried to adopt alternative teaching approaches that concur with the World Health Organisation (WHO) Structural Operating Procedures (SOPs) and this seems to have been the most difficult times not only in the underdeveloped but also developed world. The closure of schools and adoption of alternative learning approaches during the Covid-19 was the decision by many governments around the world. For instance the European Union adopted fulltime remote schooling after closure of schools in order to reduce on the spread of the disease [1, 2]. There were of course some schools that could have been prepared for such an abrupt change in operation just as [2] notes that some were prepared according to their study done in Europe. This may not be the case especially in the underdeveloped regions of the world where internet related technology is under developed [3]. Imagining the experience of education in the most remote regions of the world during the Covid-19 pandemic is scary. Since even before the pandemic these regions still experience numerous obstacles to access quality education. Stephanie et al. [2] in their study carried out in selected European countries conclude that schools and teachers were not well prepared to teach using the new approaches of teaching especially using digital approaches. Teachers were found struggling to prepare content using digital methods and appliance, in fact some were found lacking in digital competence. The same challenges were faced by students who were not prepared to learn from home especially that they were isolated from peers. These factors contributed heavily to the success and efficiency of the digital learning approaches adopted during the Covid-19 pandemic lockdown.

Stephanie et al. [2] on lessons learnt from school practices during Covid-19 in Europe concludes that digital competence was crucial for all stakeholder from teachers, students, parents and everyone involved in the education sector. Hence the following policy implications were found to be important if the education sector in Europe was to adopt online and distance learning approaches. Quality digital infrastructure and equipment, exploiting the blended learning approaches, collaboration and exchange, equipping students with digital, social and emotional competences, investment in teachers' competences, guidance of parents and promoting students' and teachers' wellbeing during blended learning should be prioritised.

2. The Covid19 pandemic lockdown

The Covid19 pandemic has ranged on now for more than a year and there is still too much uncertainty on its prognosis. This especially given the contemporary underlying factors around the world like globalisation that eased its spread from one border to another through air, land and sea hence escalating the health, social and economic situation with immeasurable damages on the human cost and the economies of the world [3, 4]. Andreas [3] in a worrying conclusion states that spending on education may be compromised in the near future especially when governments have to divert fund to health and social welfare. There has been short term stimulus packages in some countries but nonetheless there is already a risk on long-term public spending on education because of the damages causes by the pandemic on the health and socio-economic sector. The world has witnessed a checkpoint of the health system to the extreme and up to now there is no possible valid solution. According to Andreas [3], Geof [5] and Pokhrel and Chhetri [6] Covid19 has severely impacted on higher education where by universities had to close due to lockdowns instituted around the world. Many sectors including education have had to swiftly modify their ways of operation given the projected long period of return to normal and recovery. With prediction of economic recession in Africa by Aby

Toure [7] as early as four months into the pandemic, it was prudent to conclude that organisations had to devise cost effective modes of operation to curb on the cost of production. There has been limited trade of both imports and exports obviously because of the lockdown and this has affected several sectors including education.

Many education institutions have discontinued physical classes as a precaution to prevent spread of the disease and the 2020 academic year has already been lost with 2021 still unpredictable, Pokhrel and Chhetri [6]. Alternative education systems with more convenient and reliable assessment strategies need to be created and innovated. Digital learning has been introduced with online learning platforms trending all over the world. This was however as a matter of crisis management. There is need for more empirical research on these platforms if they are going to be full incorporated into the education system all over the world and should be contextualised to fit into geographical, social and economic dynamics and disparities. The pandemic has altered university systems and has affected not only students' enrolment but also higher education investment at all levels all over [8, 9]. There has been numerous challenges in adopting online learning around the world and this has exposed the unfairness and injustice in the education sector. From limited access to broadband and computers to limited supportive environments needed to focus on online learning, the poor allocation of resources, all are signs of wanting education sectors around the world [3]. Drayton and Waltman [9] reports that higher education institutions are encountering losses in a range of investments and sources of income. This has culminated into fatal financial problems and in fact some have been left with reduced net assets and this has increased financing costs hence finding it hard to cope with adverse shocks. Therefore adopting online learning platforms was the most easily affordable approach to allow continuity of learning even during the lockdown. However this was a crisis management approach and hypothetically, it was most likely adopted and adapted under very challenging conditions given the required facilities and equipment.

3. Online learning historical, theoretical and conceptual excerpts

3.1 Historical

Distance learning the father of online learning or education is traced to have evolved in the United States and England over the last three centuries. It is reported by Palvia et al. [10] and Kentnor, [11] that as early as 1728 Caleb Phillipps proposed to teach shorthand via exchanging letters with students throughout the US. After sometime, radio and television course delivery systems followed the parcel post approach and this was consolidated the launch of a federally licenced radio station in 1919 by the University of Wisconsin. The evolution and progression of distance education can be traced over the last 300 years and it has been running parallel with innovations in communications technology. This approach of teaching and learning continues to grow in popularity with great introductions like e-learning that have taken centre stage recently especially during the covid19 pandemic. In the 1990s distance education grew rapidly because of the advance of the online technical revolution. Although it did not gain popularity since very many educationist preferred the physical learning environment.

Kentnor [11] notes that Isaac Pitman is recognised for being the pioneer of distance education when in 1840 he began teaching shorthand by correspondence in Bath, England. He mailed postcards to students and would instruct them to transcribe shorthand passages from the Bible and they would return them to him

through for him to correct. Three years later Pitman's work is said to have influenced the founding of the Phonographic Correspondence Society in 1843. Later in 1873 Anna Elliot Tichnor founded the Society which Encouraged Studies at Home in Boston, Massachusetts and this was entirely based on the correspondence school model. The Illinois Wesleyan College started offering degree programmes in absentia and it was the first academic institution of this kind. The invention of a spark transmitter in 1894 by Guglielmo Marconi was also a milestone towards strengthening the field of distance education. More establishments followed like in 1906 the university of Wisconsin-Extension was founded and turned into a distance learning unit and these launched an amateur wireless station that was purely dedicated to education broadcasting.

3.2 Theoretical

3.2.1 The community of inquiry (2000)

The Community of Inquiry is one model or theory that has tried to elaborate processes and approaches of online learning. Proposed by Garrison and Shale [12], its comprehensive conceptual framework is well designed to capture the dynamics of education in order to guide effectively the study of online learning at especially higher learning institutions. For instance the community of inquiry that comprises the students and teachers is the route to better experience in education if higher order learning outcomes are to be achieved. Conceptually basing on the presence of three components of cognitive, social and teaching, the Community of Inquiry acknowledges that though there is an overlap and relationship among the three – there is need for further independent research of each. Garrison and Shale [12] argue in this model that it is prudent to design online and blended courses for active learning communities or environments. Today an online or blended course is hardly designed without the applying the community of inquiry as a model because it creates a highly interactive engagement among students and instructors since it encourages use of various learning aids and materials like interactive boards, blogs, videoconferencing and other audio visual facilities [13].

3.2.2 Collaborative learning theory (2012)

The theory according to Harasim [14] is centred on collaborative learning, knowledge building and the use of Internet as a means to reshape informal education, formal, and non-formal for the Knowledge era. The theory's emphasis is on the role of peer discourse as a key to learning and therefore defines learning as an intellectual convergence that can be achieved through three progressive stages of group discourse – idea generation the brainstorming phase which involves gathering divergent thoughts, idea organisation which involves comparing, analysing and categorising ideas through the process of discussion and argument and then the intellectual convergence where synthesis and consensus occurs of intellectual ideas is done. This can be through tasks like essays, assignment or any other intellectual tasks [13].

3.2.3 Connectivism

According to Picciano [13] connectivism as a learning model acknowledges a major shift in the way knowledge and information flows, grows, and changes and this is attributed to the vast data communications networks. The theory acknowledges

that Internet technology has moved learning from internal, individualistic activities to group or even larger crowds.

3.3 Conceptual

Online learning has inevitably become a trend world over with most information technology companies developing user friendly platforms for this pedagogy given the physical closure of education institutions due to the outbreak of the coronavirus. With the world still experiencing intermittent lockdowns, more advancement are needed to improve on the e-learning platforms and some researchers have recommended a combination of this type of learning with traditional teaching methodologies, [15, 16]. With adoption e-learning mechanisms, there emerged the need for more active stakeholders in the education sector at all stages of the teaching-learning process. For instance, the fact that students and teaching were basing at home to play their role, the parents had to fully take part in the process since the teachers' role of classroom management was now tampered with. Parental involvement played a very significant role for online learning to successfully take place [17].

Online learning has been adopted as a crisis management mode of pedagogy across all levels of learning. It is however coming to the notice and realisation of many scholars that there should be suitable pedagogy and platform for different class levels of education, Pokhrel and Chhetri [6]. However it is surrounded by many challenges which seem universal although studies indicate that some challenges are pervading. Some studies have reported issues like cost and accessibility especially in developing countries. For instance Pokhrel and Chhetri [6] concludes that Internet bandwidth is generally low and there are very few access points which is coupled by relatively costly data packages. Therefore in comparison with low income among populations in developing countries, there has been limited accessibility and affordability. This calls for policy level intervention which has not been possible for many of these countries since governments are concentrating on curbing the health impact of the disease. Therefore [6, 18] recommend that developing affordable and accessible tools of online learning should be the key focus of educational tools developers with emphasis on customisation. This should be capitalised by governments investing in professional developing of teachers and this time emphasising a specialised training of blending online and traditional pedagogies. Shibly et al. [18] further concludes that conduct online training programs can be conducted by universities about online teaching and learning tools. In some cases government can provide free or subsidised internet to students. Online learning still faces critical scrutiny by various education stakeholders from students to parents with studies showing that there is still a lot of technical, academic, communication and satisfactory challenges. Learners are not satisfied with continuing with online learning and this is affecting their performance [19]. Much as there is not much trouble of e-learning among students according to evaluations of their experiences, challenges related to technical issues have been reported and this is in addition to poor internet services, cost of data, unreliable power supply, limited access to online library services [20, 21].

4. The general education situation in Somalia during Covid19 lockdown

The outbreak of the coronavirus has affected systems all over the world and this is worse in developing and underdeveloped countries. After health, education has been the other most affected sector with all education institutions closing. Similarly in Somalia schools were closed in order to prevent the spread of the virus as

requirement by the world health organisation. Just like any other African country, Somalia faces other pre-existing challenges in its education sector even before the coronavirus pandemic. According to Jamillah [22], Sub-Saharan with more than one fifth of children aged 6–11 years out of school, has the highest rates of education exclusion. In Somalia before the pandemic only 1.5 million children of the 4.5 school going age were in school.

With a history of civil wars since 1991, the outbreak of the coronavirus has escalated the Somalia education situation. The availability and quality of education has been harmed severely by control measures. With previous educational inequalities that negatively affected girls, the rural and poor population have been escalated by the control measures. There is therefore need for more inclusive approach in response to the Covid-19 lockdown impact in the education sector [23].

In a study by Hassan and Abdullahi [24] they found that instructors because having low degree of content, their delivery online with flexibility applications weakened the process of teaching and learning. Therefore they conclude that instructors lacked adequate knowledge on basic ICT knowledge and skills with a very high level of barrier of adaptation on online learning and teaching tools. Therefore the higher education institutions need to build capacity of their staff especially in the academic section to improve on their ICT literacy and provide a scholarly communication platform to enhance their technology awareness, knowledge and exposure.

5. The process and challenges of online learning among universities in Garowe

In response to the Covid-19 outbreak the world has closed business and countries like Somalia have not been exceptional. The government and all higher education institutions adopted crisis intervention measures on implementation of blended learning approaches like online teaching and learning Hassan and Abdullahi [24]. Universities in Somalia encountered significant challenges and were therefore forced to adopt online learning as a measure of crisis management in response to closure of education institutions [23]. The adoption of online learning during the pandemic among universities in Garowe being a problem is premised on all challenges faced by institutions of education all over the world. In a survey research in Garowe with a main objective of exploring the process and challenges of implementing online learning during the Covid19 pandemic in higher education institutions of Garowe, findings indicate that it was not an easy process.

This book chapter therefore intended to document the key findings of this study having reviewed findings from other regions of the world. Implementing online learning during the covid19 pandemic lockdown among Universities in Garowe accruing from a mini survey carried out in May 2021 in comparison to previous studies and possible existing model or theories. The survey employed a qualitative design to analyse the data which was collected from students and lecturers. Interviews were conducted to a total of 12 subjects comprising of 8 students and 4 lecturers from two universities of University of East Africa and Puntland State University in Garowe Puntland state of Somalia.

With regard to prior knowledge on online learning, majority of the students knew about the existence of online learning but were not conversant with particulars of its application and the various platforms. However still the students also emphasised that they preferred physical classrooms. Al-Shalabi [20] and Shibly et al. [18] recommend virtual reality application whereby practical sessions are conducted to provide online learning training programmes for both lecturers and

students. Given that Covid19 is here to stay, this is sustainability recommendation for educational institutions. Just like Hassan and Abdullahi [24] found that some instructors in Somalia institutions because of having low degree of content, failed to deliver online with the flexibility applications which weakened the process of teaching and learning.

Revelations also indicate that majority of the students would prefer physical classroom learning to online learning. The preference of classroom learning approach is mainly according the students responses due to the continuous interaction between students and lecturers during the lecture. Of course a few students preferred online learning arguing that there is limited disruptions during the lecture on addition to the fact that the spread of covid19 is controlled and that the approach is more flexible. Muhammad [19] concludes in his study that English as a Foreign Language learners in Taibah University Saudi Arabia are not satisfied with experience of online learning. This validates the findings above from the Somali study and therefore justifies the need for more future comprehensive studies on online learning with emphasis on the pedagogy and motivation.

Some subjects also revealed that there were several limitations to online learning and these included accessing resources, hard to adopt and adapt. Other subjects revealed that they found it interesting with numerous materials to refer to for purposes of self-study. Exams were conducted online but according to interview responses, student subjects revealed that exams were difficult because of the nature of online lectures which were not elaborate with limited question and answer sessions. These challenges were supplemented by the high cost of online learning, intermittent internet connection, limited skills of using online learning gadgets and equipment, limited focus and attention hence poor internalisation of content, limited student teacher interaction and sometimes problem of electricity. Jena [15] and Shibly et al. [18] in their studies have recommended that institutions should provide students with free internet connection and maybe gadgets like computers or tablets where possible. Lecturers also revealed that the adoption and adaptation of online learning was so abrupt since it was immediately after the lockdown. Universities according to the lecturers were caught unaware and it was a very difficult situation according to them. This is because most lecturers and students lacked prior skills and knowledge of the various online learning platforms.

Assessment and evaluation during online learning remains a key challenge. If learning outcomes shall be achieved to witness their intended goals especially if competencies and skills are part, then more research on assessment and evaluation processes of online learning is needed yesterday. Lecturers revealed that one of the challenges was assessment and evaluation. The teaching and learning process went on very well save for the examination process. The lecturers from the universities revealed that they resorted to case studies which were administered to students and they submitted after three days. Lecturer also revealed that student-lecturer interaction is limited during online learning, they missed the engagements in discussions, the question and answer which are all not easily realised during online learning.

Additionally the lecturers noted with concern that students were not conversant with the online learning platforms, gadgets since some of them even lacked the basic smart phones. This was further complicated with intermittent internet and sometimes electricity. It was compounded by the difficulty in adopting and adapting to the change and frequent student absenteeism. Lawrence and Fakuade [17] suggests that if students are to be committed when learning from home, parents should synergise with the online learning trend.

Among the solutions Proposed by the lecturers include procurement of online learning equipment, tools and soft wares if it is to be efficient and reliable. They

emphasised that lecturers and students should be adequately trained and equipped with skills of online learning plus educating and sensitising all concerned stakeholders like parents. One lecturer proposed that IT skills should be introduced at primary and secondary school level in Puntland and Somalia at large. Then it is also important that students are encouraged to practice use of online learning platforms like zoom, google meet, webex etc. to increase their acquaintance with the platforms [25, 26].

6. Conclusions and recommendations

If online education should be globalised, then technology platforms like internet, language and culture diversity, curriculum and processes of evaluation should be standardised. For countries to step up their online education, economy, institutional and student level factors should be given priority. At the country level, the industry and government should ensure that employment of online education graduates is guaranteed. This is in addition to ensuring the enhance capacity of online education through upgrading facilities plus providing and installing equipment. Institutions should provide support through administration, marketing, technology and also top management. Students should also be motivated, the online learning culture should be well streamlined, the learning style, their IT skills enriched through training and also enhance their awareness of online education.


It is evident that adoption of online learning among universities in Puntland was a matter of crisis management. Implying that the administration, lecturers and students were all not ready and had no prior grounding in all dimensions surrounding this pedagogical learning platform. Additionally they also lacked the resources to adequately adjust, prepare, plan and implement this type of learning. The outbreak of the coronavirus which culminated into the Covid19 pandemic and lockdown is a learning process for the education sector to modify and adjust accordingly by installing required equipment and facilities plus training staff. This is in addition to reviewing curriculum and pedagogical approaches and techniques since Covid19 is here to stay. It is also prudent to conclude that there is challenge of strategic management in these institution. Otherwise with strategic management an organisation can always have resources that are invested to avert or abate the consequences of such a crisis.

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Embracing Technological Change in Higher Education

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Abstract

Access to information has never been easier, thanks to the rapid development of the internet and communication technologies, and the ubiquity of smartphones and other internet-enabled devices. In traditional classroom learning, teachers provide students with various sources of information that are known to be reliable. Nowadays, especially in a post-pandemic era, students increasingly rely on a host of resources available on the internet. Exposure to vast amounts of scattered information could adversely affect students' learning process. Meanwhile, pedagogical approaches, classroom learning practices, and student learning activities have evolved significantly to cope with contemporary challenges. This study reviews the current learning practices and the technological interventions in a rapidly evolving higher education landscape. In particular, the challenges when integrating technology into higher education are considered in detail and ways put forward for doing so in that context.

Keywords: change, attitudes, e-learning, higher education, online education

1. Introduction

The rapid development in information and communication technologies has significantly influenced the process of education in the past few years. An exponential increase in online education has been observed globally, which has significantly affected pedagogic approaches and learning behaviours [1]. Innovative technologies are being developed to improve the effectiveness of online learning processes. For instance, the Sandbox Collaborative, the innovation arm of Southern New Hampshire University, uses technology tools for twenty-first century collaboration, weaving audio-visual and IT systems into the fabric of this visionary incubator at the university, offering students an effective learning experience [2]. This facility is one of the examples reflecting the future of higher education that uses innovative technologies, including blockchain networks, virtual reality, artificial intelligence, and machine learning. Whilst huge investment in technology solutions is one of the major challenges for educational institutions, this can be addressed by increasing enrolments worldwide. Top institutions, such as MIT, have been allocating multi-million-dollar funds to pay for faculties to experiment with new teaching innovations [3]. Various innovative concepts are already being tested. For instance, students may subscribe for a course or modules of their choice, rather

than enrolling. Boise State institution is already implementing this concept through a Programme called 'passport to education', through subscription (\$425 a month for 6 credit hours or \$525 for 9 h on two bachelor-degree programmes), which is 30% cheaper than the traditional in-person university fee [4]. Southern New Hampshire University is testing an assessment system using artificial intelligence (AI) techniques [5], whilst Barnes & Noble Education is using an AI tool called 'bartleby write' that corrects grammar and checks for plagiarism [6].

There are various contributing factors that have led to the exponential growth in the online education. Firstly, internet access and smartphone ownership have increased significantly in the past few years, which has facilitated the remote learning process. In 2019, there were 5.1 billion unique mobile users, with a 67% global penetration rate, and 4.3 billion internet users, with a 57% global penetration rate [7], thus indicating that more than half of the world's population is connected to the internet. However, the digital divide is one of the major concerns that impact online education. Secondly, the recent COVID-19 pandemic has significantly affected the learning process due to the preventive strategies, such as school/college closures. Almost 99% of students were affected by the school closures due to the pandemic and it is estimated that over 100 million additional children will fall below the minimum proficiency level in reading as a result [8]. Online education was taken to be the most effective approach to address the issue of school closures owing to the pandemic, which led to a sudden increase in the number of students enrolling in online courses [9]. The sudden shift from the traditional classroom learning environment has left many wondering whether the adoption of online learning will continue to persist post-pandemic times, and how such a shift will impact students, teachers, and the worldwide education market. The size of the worldwide e-learning market, which stood at \$18 billion in 2019, is expected to reach \$390 billion by 2026 [10].

Despite the scope for online education being vast, the sudden shift towards it has led to serious complications in terms of delivering education in many parts of the world. Developed countries are far ahead of the developing and under-developed countries in terms of the internet access, the relevant infrastructure, high internet speeds, connectivity, and reliability. For example, 96% of the population of Norway has internet connection, whilst only 2% of those in Somalia have it. Moreover, it would take more than 30 h to download a 5GB video in Yemen, whilst it would take only 8 min to download the same one in Taiwan [11]. These factors, among others, are negatively affecting the adoption of e-learning in many countries. Considering these matters, this chapter provides an overview of the new technological developments in higher education, issues associated with the integration of technology into education, the attitudes of students and teachers towards the changes in the learning process, and the way forward.

2. Technological developments in higher education

Whilst technology adoption in education has been rising in the past few years, the COVID-19 pandemic has substantially accelerated it across K12 and higher education. The key trends now include developing cloud-based technologies for student relationship management (CRM applications), learning management systems (LMS), assessment management applications, and many other technologies that are efficient in managing the various operations of the institutions. The advances in the integration of technology with education and the new innovative solutions are discussed in the following subsections.

2.1 Video-based learning

Increased access to the internet has opened the door for remote learning, among which video-based learning is one of the first and most prominent approaches being used in education. For instance, YouTube, one of the most popular online video networks, has more than two billion users worldwide, with the American customer satisfaction index (ASCI) registering 75% [12]. Video is becoming a *de facto* medium in education. Students prefer to watch videos for better understanding, which can also lead to better knowledge retention, rather than reading long texts. Furthermore, there is a 27% Compound Annual Growth Rate (CAGR) in video streaming devices (tablets, smartphones, smart TVs, etc.), with it being projected that 66% of worldwide devices will be streaming 4K quality videos by 2023 [13]. Increasing internet speeds, with new technologies, such as 5G and high-speed broadband networks, is facilitating the wider adoption of video-based learning by streaming high-quality videos. Owing to these factors, educational institutions are increasingly likely to invest in creating educational videos that can be educational/topic-based videos, classroom-based videos, or technology-based videos, with screenshots and images along with a description. For instance, loom.com is a free tool, through the use of which educational videos can be created. Furthermore, video production and distribution can be cost-effective, as there are many tools for creating and editing videos. Importantly, they support anytime learning, whereby students can watch recorded videos as per their convenience. In addition, the flexibility to watch videos on multiple devices can enhance the learning process by supporting a convenient learning process.

2.2 Blockchain

Blockchain technology ensures that the transactions and data are not controlled by any organization, which helps in creating a decentralized environment as well as enabling safe and secure transactions. Each transaction is recorded in a public ledger in a verifiable and permanent way [14]. Blockchain is a technology being used for cryptocurrency; however, because of its security protocols and safety, it is being adopted in various areas of business. Various case studies and use cases have been developed for blockchain in higher education. Processes, such as sharing student data between institutions for a semester exchange, student transfers, or sharing students' academic data with recruiters, are a few instances where blockchain can be applied. This technology has been already applied by various institutions in different areas. For example, MIT has applied Blockchain to validate its certificates, whilst the University of Nicosia has used it for smart contracts and to accept cryptocurrency as a form of payment [15]. Many applications with different use cases are emerging, which can be student-centric solutions, such as automatic recognition of credits, or institution-centric ones, such as streamlining the process of diploma verification and virtual lifetime learning passport, whilst securing the issued certificates permanently. A recent study [16] has led to the development of a global higher education credit platform, named EduCTX, which constitutes a globally trusted, decentralized higher education credit, and grading system that can offer a globally unified viewpoint for students, higher education institutions, and other potential stakeholders. EduCTX prototype implementation delivered effective and secured management and control of ECTX tokens, representing the credits that students gained for completed courses. Regarding safety and security issues, blockchain technology can be considered an effective solution but the cost remains high, hence it is not feasible to be applied across all institutions.

2.3 Online assessment trends

Assessment methods, such as coursework, examinations, and viva are key to evaluating students' learning. Traditionally, the assessment was tasked to teachers, who allocated a particular grade based on their judgement and/or set marking criteria. Nowadays, with increasing reliance on online education, there is a growing need for new innovative technologies to assess students' learning. AI-based technologies and other semantic technologies, such as Natural Language Processing (NLP), have been identified as being effective solutions in this aspect. Machine learning (ML) techniques, involving trained algorithms, can help teachers in complex assessments as well as reducing the burdens of human marking, time, and cost.

Many studies focusing on the use of ML techniques for students' assessment, relied on the validity of the work while undermining the technical and pedagogic features in evaluating student works in science subjects, using approaches such as text recognition, classification, and scoring [17]. Disagreements related to vocabulary between human and ML scoring are possible when assessing students' works [18]. To address this, NLP techniques can be used in the assessment process. NLP algorithms have been found to be effective in assessing students' work, such as essays, marking closely the same as humans. Moreover, they can provide similar scores in both original languages and translated versions of essays, thus reflecting the applicability of assessment technologies across multiple languages. NLP techniques have been shown to provide consistency, scalability, and traceability in the form of an automated marking system. Furthermore, online exam invigilation proctoring techniques, such as audio/video/screen forms, automated AI invigilation, preventing HDMI cable extensions, avoiding background screen sharing, preventing unauthorized access, are a few of the new techniques being used in online exams and assessments aimed at avoiding cheating and/or copying. In addition, AI-based solutions, such as Expert Control System (ECS)-based tutoring platform and Agent-based Tutoring Systems (AbS) are proving to be effective in assessment for learning [19, 20].

2.4 Self-paced learning

Each student has a different set of learning-related abilities, strengths, and weaknesses. While students like a particular subject, they may dislike others and, as result, can be weak in these. To overcome this, self-paced learning, where students study at their own pace, with little influence from classroom lectures, can be one of the effective solutions. Technology plays an important role in driving self-paced learning. Many universities have launched online courses that give the students more control over their study, so they can study at their own pace. Blended learning, where significant elements of the learning environment, such as face-to-face online tools, are used in learning, can also support students' self-paced learning and enhance their engagement in learning [21]. Also, empirical findings have suggested that self-learning tools, with the support of relevant pedagogy and learning processes such as self-regulated learning can significantly improve students' learning and engagement [22]. In sum, online educational tools allow for self-paced learning and this can significantly improve students' engagement in learning and knowledge retention.

2.5 Artificial intelligence and machine learning

AI is already being implemented in various business sectors. The education sector has a range of areas in which AI can be of significant help in improving the

learning process. For instance, AI-based auto-invigilation can be used for administering online examinations. Using video, a remote invigilator can watch candidates during an exam, while audio invigilation can capture sound coming from candidates' backgrounds while taking the exam (recording any malpractices such as cheating). Moreover, facial recognition and biometrics can provide added security for verifying the candidates before accessing various online resources. However, using AI techniques in certain areas, including invigilation, is an issue that has been subject to debate with some arguing that it is unethical. Furthermore, data-driven analysis using AI and ML techniques can enhance decision-making capabilities in the education sector. For example, in learning analytics, historical school dropout data can be used to train ML algorithms to predict future dropouts based on numerous variables including dropout rates by class, level, gender, region (urban/rural), and college type. This can help institutions and governments in taking effective decisions aimed at reducing student attrition. The reliability of AI techniques has been proved to be effective in various studies [23]. For instance, a recent work [24] involved investigating the use of AI-based algorithms in the admissions process at a German university, where it was found that the decisions were more effective than those of humans. This is clear evidence that AI-based solutions can improve various operations in educational institutions.

2.6 Virtual reality

Virtual Reality (VR) enables students to become involved in active learning, rather than being passive in the learning process. VR now paved the ground for more advanced technologies such as Augmented Reality (AR) and Extended Reality (XR). These technologies/tools deliver a simulated environment to students that is similar, to some extent, to a real one which they can experience it in 3D-visual form. For instance, biology students can learn about the functioning of the heart through a simulated environment, where they can open the layers of organs and study the functioning of its inner parts, such as the atria, ventricles, arteries, and veins involved in pumping the blood. It has been ascertained that with VR techniques students can have a knowledge retention rate of 75% compared to 10% with reading and 5% from lectures [25]. A recent systematic review [26] on the impact of VR on students' performance has identified 24 relevant studies, out of which reported a positive impact of VR on performance, whilst seven revealed a negative one, and six registered no significant impact. Moreover, VR techniques can help in the acquisition of procedural and declarative knowledge as well as the development of skills, such as problem solving, communication, and collaboration [25]. VR technologies, being costly, are being used minimally; however, with new development making them cost-effective, they could become one of the major components of online education in the future. Nevertheless, some limitations have been identified in research relating to VR in higher education. In particular, most of the studies evaluating VR technologies have been focused on the usability of the VR application, rather than the impact of such technologies on learning outcomes [27].

2.7 Internet of Things (IoT)

Internet of Things (IoT) refers to the small objects connected to the internet that can communicate with each other. These objects can work without human intervention, thus enabling automation and control. IoT is being applied in various sectors, and it has immense scope in the education sector [28]. For instance, it can be used for tracking and monitoring a range of activities in school, such as monitoring school buses, providing automated lighting in classrooms, thereby reducing

electricity wastage and enhancing sustainability, monitoring students' health using devices, biometric attendance, student location tracking, and tracking students' academic progress. IoT could also dramatically change the ways universities work and enhance student learning in many disciplines and at any level. Furthermore, it could enhance learning outcomes by providing richer learning experiences, improved operational efficiency, and by gaining real-time, actionable, insight into student performance [29]. A few institutions have already been using applications exploiting IoT, and widescale implementation has yet to be achieved [30].

2.8 Chatbots

Chatbots are interactive applications that provide feedback or address the queries of the users, having been applied in almost every sector. It is very common these days to observe a pop-up on banking or retail websites, where a virtual avatar asks whether it can help with anything. Chatbots could be applied in many areas in higher education, such as personalized tutoring, personalized feedback, and query resolution. Institutions often receive thousands of queries regarding the admission process, fee structures, merit lists, college or exam schedules, syllabuses, etc. Chatbots in this context could be very helpful, as they can virtually assist users in real time, thereby enhancing their satisfaction. The scope of its application in higher education can be understood from a recent study [31] that developed three chatbots: (1) to support the delivery of a taught master's course simulation game; (2) to support the training and use of a newly introduced educational application; and (3) to improve the processing of helpdesk requests within a university department. Other studies [32, 33] have identified more possibilities for the use of chatbots in online education in the future for facilitating personalized and self-paced learning practices.

2.9 Open educational resources

Open Education Resources (OERs) constitute one of the foremost technology trends in higher education, which are cost-effective and accessible to both teachers and students. OER includes any learning material that can be freely accessed by students and teachers, thus being in the public domain, thereby making education accessible and affordable for all. UNESCO is the only international organization that sets out a framework for a dedicated OER Program. However, OERs exist for many years, and no major developments have been observed in this area. Social networking has become one of the important platforms for collaboration for learning, which is also an approach for improving open educational resources and forming online student communities for sharing knowledge.

3. Challenges to the integration of new and innovative technology solutions into higher education

Globalization and competition between institutions in the technology race are the two key factors contributing to the adoption of technology in higher education. However, there are various barriers to integrate technology into higher education provision. Preference for academic traditions, such as faculty/classroom-centred lectures, and mean many lecturers/professors, is reluctant to adopt technology-based alternative instructional methods. Limited support for faculty members in learning to use these technologies is another factor inhibiting their usage in higher education [34]. In particular, the lack of effective policies, inadequate

infrastructural facilities, and the absence of plans of action by institutions in developing and under-developed countries have been identified as obstacles to the implementation of new technologies [35]. Barriers can also be identified in specific to a technology being used in the higher education. For instance, regarding gamification technology, various inhibiting factors, including inflexibility of curricula, the negative effects of gaming, students' lack of readiness, lack of supporting materials, fixed class schedules, and limited budgets, have been identified as hindering its usage in classrooms [36]. Meeting the increasing expectations of the students is another challenge that has been identified in the context of integrating technology into higher education [35]. Children and young adults nowadays are particularly influenced by the technologies surrounding them. For instance, generation alpha, i.e., children born in 2010; the year in which iPad was launched, is used to the technologies that embrace IoT. Children of that generation are increasingly being brought up in smart homes with smart speakers, such as Amazon Alexa or Google Home, which are changing the way they access information. Furthermore, some students are creating their own apps in high schools, which clearly indicate the high levels of technology skills among the current generation of students. Hence, it is only to be expected that students will demand the same types of technology they experience in smart homes to be available in their classrooms and universities. This has led to it becoming mandatory for universities to upgrade to new technologies and smart devices that are redefining the ways of learning. However, meeting the rising expectations of students has become one of the major challenges for universities, with upgrading to integrate the new technologies in the learning process requiring a huge investment. Moreover, managing such technologies requires major changes to infrastructure, processes and policies, administrative systems, and pedagogic approaches [37–39]. Lack of funding, increasing operational costs, and lack of state/public support have been inhibiting the implementation of technology solutions in universities and colleges in the past few years [40]; however, few countries, such as Japan, have substantially increased funding for universities to address the above mentioned concerns [41].

With new innovative technologies being integrated into higher education, the risks to privacy and security have been growing. There is a need to draw a line regarding the number of students' private information that a university holds [35]. Unregulated processes and the use of innovative technologies, such as AI, may raise concerns of privacy and about the interests and influence of corporates in accessing the data due to invisible, biased, and inaccurate logic or data [42]. Furthermore, with the rapid increase in the amount of information being collected using AI technologies, such as students' learning behaviour, it is becoming increasingly complex to secure the data. In some cases, the less the information, the easier it is to protect, for when there is overload, the security of information held by the institutions may be at risk. Moreover, technology is also impacting the role of faculty in significant ways. Academics can use technology to prepare for classes, conduct research, and deliver instructions. A fundamental shift in faculty duties can be observed with the integration of technology. Faculty are observed as consultants and coaches rather than subject experts as students have multiple platforms for learning. Furthermore, the idea of the university such as accredited institutions with no campus, classrooms, or athletic teams to tie together the academic community has been changing with increasing opportunities for e-learning. With quick and unpredictable changes in technology, challenges in systematic planning of technological enhancement to educational programmes and catching up with new technologies are increasing, as a adequate number of resources are required for training faculty, updating operational changes, and managing them. Furthermore, technology has been transforming

business sectors, with more companies relying on automation, which has significantly been putting pressure on the jobs market. However, there are new opportunities emerging with the advances in technology, where human resources are required. Addressing this volatility has become a challenge for the universities to feed the ever-changing pipeline of opportunities, in preparing new courses that impart the right skills and knowledge for students to be employable. Technology may not reap its full potential and may not be effectively integrated into higher education, if the barriers to its adoption discussed in this section are not resolved satisfactorily by institutions.

4. Students and teachers' attitudes towards the change

The attitude of the students and teachers towards technology integration in higher education is an important aspect to be analysed. Understanding such attitude provides further insights into students' and teachers' behaviour and perception towards e-learning and allows better planning for future development and policies. Generation Z, the members who use modern technologies, especially mobile applications, is not particularly attracted to e-learning platforms, but rather, is more interested in the participation and collaboration in the creation of its content and interacts with each other in ways they are used to with other social media platforms such as Facebook, Instagram, and YouTube [43]. As students have unlimited access to information online, their attitudes towards e-learning have reflected a participatory approach in learning. This has resulted in the change of the role of instructors to that of a consultant or a coach. Hence, instructor knowledge of learning technologies and student understanding of computer systems, and technical infrastructure are important factors for ensuring the success of online learning [44]. With the introduction to technology from early childhood, students in higher education have learned to accept it as an integral part of their education, with many perceiving it as an essential resource for effective learning. However, the attitudes of students may not be the same in all disciplines and may differ from region to region, as there are various factors that influence its acceptance. Regarding this, a recent study [45] during the COVID-19 pandemic with 111 nursing students in the Philippines observed that, in spite of their having intermediate computer competency and a stable internet connection, the majority of them had negative or ambivalent attitudes towards e-learning. They reported e-learning as being impersonal, thus resulting in poor student-teacher interaction, whereas a study [46] in the UK on medical students' attitudes towards the Mental Health First Aid eLearning course found that the online course helped them to improve their knowledge and confidence to help someone in need, which thus resulted in positive responses to the approach. Another study [47] in Ghana, with 472 distance learning students of the University of Cape Coast, revealed that there are regional differences regarding students' perceived usefulness, self-efficacy, and attitudes towards e-learning. Hence, it can be concluded that there are various factors that might influence students' attitudes towards e-learning positively or negatively. Computer self-efficacy, social influence, level of enjoyment, system interactivity, computer anxiety, technical support, perceived usefulness, perceived ease of use, and behavioural intention to use are some of the factors that can influence the students' attitudes towards e-learning [48]. However, increasing reliance on the e-learning options due to the COVID-19 pandemic has led to the introduction of e-learning and other innovative technologies such as virtual learning, which have increased students' satisfaction levels and helped in developing positive attitudes towards e-learning [49].

Similar to students, teachers' attitudes towards technology may be influenced by a range of factors, which can be categorized as being at the teacher-level, school-level, and system-level [50]. As discussed previously, teachers may exhibit resistance to learn new technologies that require them to change their instructional and pedagogic strategies or they may experience a lack of support in terms of training to learn these technologies, which can lead to them developing negative attitudes about technology interventions in higher education. Teachers' attitudes can vary across different regions, with their acceptance and adoption of e-learning being dependent on their level of computer proficiency, the available resources, and students' readiness to engage in new technology [51]. The subject knowledge and experience may have no influence on the teachers' attitudes towards technology intervention. A recent study [52] investigated teachers' attitudes towards the use of Microsoft Teams in education, finding that the usability of the platform was negatively associated with their years of experience, and their general anxiety and power and control of the platform negatively affected the time they spent on the platform. Hence, it can be seen that, while those teachers who are provided with sufficient training and support may develop positive attitudes towards the use of new technology in higher education, others, with poor support and lower computer proficiency, can develop negative attitudes, and both of these dispositions can significantly influence the process of learning.

5. Conclusion: the way forward

It is undeniable that the future of learning will be significantly influenced by the technology revolution, with the traditional university-based learning models being replaced by online learning ones. Notably, the previous gradual shift towards online learning has been transformed into a much swifter transition due to the COVID-19 pandemic. Many institutions were unprepared for the change, but they had no option other than to engage with it. As a result, various challenges have emerged that have adversely affected the learning process for both teachers and students. Now, there is no turning back, so the challenges to adapting to new technology in higher education must be addressed if we are to move forward. Therefore, the future of higher education may need to deal with embracing the change by preparing the students and faculty for the rapid changes that may appear in the process of learning, administration, and management of resources. There is a pressing need for the development of new educational policies and standards for online education systems using different technology interventions, and restructure the accreditation and credit system in an online environment. A special focus has to be put on increasing the funding for deploying innovative technology solutions to meet the expectations of Generation Z students. At the same time, the safety, security, and privacy of the technology-enabled education systems have to be improved in order to ensure the reliability of the new technology interventions. Most importantly, the way forward is to make the most effective use of technology in education by collaboration between the universities, social organization, corporate institutions, and the states so as to enable access to education for all. This approach would enable streamlining the education according to the ever-changing pipeline of opportunities.

Conflict of interest

The authors declare no conflict of interest.

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Socialization Experiences among Undergraduate Students in Higher Learning Institutions (HLI)

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Abstract

This work portrays the problems of socialization among undergraduate students in higher learning institutions. The socialization processes in higher learning institution are significant for the successful navigation of students in the academic programs and university environment in preparing the next generation of professional practitioners and scholars. But the undergraduate student socialization experiences of students at university environment are overlooked. To navigate in the higher learning institutions, students should be socialized effectively to the normative contexts of the higher learning institutions. The normative contexts of the higher learning institutions are generally categorized into social and academic contexts, because these context academic and social context integration have been linked to student retention and success. Social integration involves interpersonal relationships, support, interactions with others, and a sense of belonging at a university, which stems from extracurricular activities, informal dealings with peer groups, and interactions with faculty and staff, whereas academic integration is described through grade performance and intellectual development that reflects an ability to meet the standards of the academic system; intellectual development involves a student valuing their education as a process of development in which they gain knowledge and ideas. Students' background is also the contributing factor for students' socialization in the University.

Keywords: undergraduate student socialization, socialization, higher learning institution, structuration theory, normative contexts, integration

1. Introduction

This part of the book is focused on portraying issues regarding the problems of socialization among undergraduate students and the impact on students perceived learning process, social skill, and personal development. Therefore, the major issues included in subsections are the basic concept of socializations, tents and natures of socialization, the process of socialization at a higher learning institution, the review of theoretical foundation of socialization, national and international empirical research result that defines the relevant relationship between pertinent variables on the problems of socialization and the impact on the student perceived learning, social skill, and personal development in higher learning institution. The socialization processes in higher learning institution are significant for the successful navigation of students in the academic programs and university environment in

preparing the next generation of professional practitioners and scholars [1]. So, this chapter is needed to examine the problems of socialization among undergraduate students and the impacts on student's learning process, social skills, and personal development. The concept of socialization, theoretical frameworks for socialization in higher learning institution, and review of empirical studies on students' socialization experience in the higher learning institutions are included in this chapter.

2. The notion of socialization

Socialization is derived from the Latin word *socialis* (social) understood as the method that endures all through all life and comes from the legacy, learning, and exchange of the mass involvement of mankind information, abilities, standards, values, designs of behavior, etc., which is under the specific conditions of the society to which the person has a place [2, 3]. Stable social order or social cohesion fundamental for the various components of society work together to maintain the status quo, which includes social structures and institutions, social relations, social interactions and behavior, cultural features such as norms, beliefs, and values. This might be also possible general through socialization [4]. This is way socialization become one of the main concerns of sociology to explain how social cohesion or social order is possible [4].

In the socialization processes, individuals and groups are taught the skills, and behavior patterns, values, and motivations are needed for competent functioning in the culture in which they join [5]. There are also the social skills, social understandings, and emotional maturity needed for interaction with other individuals to fit in the functioning of social dyads and larger groups [6, 7]. Socialization accounts for the transmission of culture and the development of an autonomous human being [8]. It is a requirement for the continuity of society and a requirement consistent with our experience as salved beings [5]. Socialization processes include all those whereby culture is transmitted from each generation to the next, including training for specific roles in specific occupations [1]. It is a lifelong process that starts from childhood till the death of a person and a vital process of learning through which society exists [4].

As it is explained in socialization theories of sociology and social psychology, socialization is the process of the individual development of a human personality within a social environment, with specific living conditions [9]. Socialization enables individuals to acquire language, knowledge, social skills, norms, values, and customs that are necessary for participating in and integrating into a group or community [9]. Socialization is a combination of wanted conformity and externally imposed rules, mediated by the expectations of other persons [1]. Thus, socialization influences the sociostructural organization of common existence and simultaneously attains cultural and social continuity. We are made aware of societal values the norms and beliefs of our society and expectations from our earliest family and play experiences [10].

It describes the ways that people come to understand societal norms and expectations, to accept society's beliefs, to be aware of societal values, and taught to be proficient members of society [11]. It is not simply interacting with others like with families, friends, and coworkers, but also internalizing through socializing agents and the most basic of human activities [11]. Through socialization, individual learn the culture of the society into which we have been born, learn, and work. Without socialization, the individual had not learned the material culture of our society and nonmaterial cultures such as beliefs, values, and norms [12]. Without socialization, most importantly the individual had not learned to

use the symbols that make up the language through which we learn about who we are, how we fit with other people, and the natural and social worlds in which we live [6]. The critical period of socialization of individuals begins with the initial information and contact between an individual and an organization and continues until sometime after the individual enters the organization [13]. Therefore, from the initial contact up to the level of effective socialization of individual, there are socialization process and types.

3. Types of socialization

Socialization is not independent and it is difficult to get the distinctive socialization types. An individual may be the subject of primary socialization, but this can be limiting, and there will be gender socialization at the same time. As a result, one aspect of knowledge that is advantageous to all types of social events is its simultaneity [1]. Another point is their interdependence [14]. The socialization types and process are both interdependent, planned and at the same time spontaneous. Because of its nature, we do not have clear types of socialization with its clearly demarcated boundaries [15]. For example, there are also formal and informal types of socialization though there are no clear boundaries on what is formal and informal. Effective socialization can only be achieved through formal socialization. Current trends in education show that this cannot be achieved through restrictive social and especially by participation. At the same time, it cannot make a holistic approach to socialization, even if the intention is an entire range typology. When certain aspects of socialization are deficient, it is good to be studied in specific details, but that is integrated into all elements of socialization [1]. Despite there are such limitations, sociologists and social psychologists have identified the following types of socialization [1].

3.1 Primary socialization

It is fundamental and essential for the harmonious physical and mental development of the child and it is held generally at the family or parents level [16, 17]. Primary socialization involves learning the rules of behavior, norms, and values that can be treated at early ages and the informational and emotional baggage of any person. Primary socialization is equivalent or tantamount to individual humanization [1]. This process of transformation of children into true social human beings is by teaching basic values, through socialization and learning [1]. Primary socialization is a highly emotional process, in contrast to secondary and continuing socialization, which is geared at emotional neutrality. Primary socialization allows children to learn rules of behavior, conventions, and values that can be assimilated at a young age and are part of any individual's informational and emotional baggage [18]. The primary socialization has a strong maternal character associated with some degree with the father's influence [1, 19].

As a result, these types of socialization processes demonstrate that the infant is a social entity who forms a social relationship with his mother while still a newborn [20]. From the age of 2 months, both parents establish a social dialog with their children. This conversation will be tailored and reinforced in the next months and years [20]. The content of elementary socialization is organized on the concept of cooperation. The cognitive dimension entails the assimilation of language, which is the most important tool for primary socialization and is located close to the fundamental world. It is the initial way to comprehend the world around you, the contact group, or family group's interpretation [1].

3.2 Secondary socialization

This type of is the period in which a child begins to interact strongly with other social environments than the family. This type of socialization does not reduce strict in childhood, but it continues throughout the entire life of the individual, with the purposeful creation and strengthening of personality after the primary socialization. In this regard, Goodman defines as cited in [1] this type of socialization continues, identifying it with formal education [1]. As [21] cited in [1] states that secondary socialization is the stage immediately following the primary phase, the young obtains a number of statuses and, as a result, consecutive roles, as well as incorporation into multiple group structures and the larger institution [22]. This sort of socialization occurs in educational institutions, professional, or formal organizations of diverse organizations, and happens in an environment of progressive emotional neutrality as the person grows and matures. Socialization is a gradual process that is influenced by a variety of circumstances whose importance varies from one society to another. The most important factors are family, school, group of friends, work, religion, mass media, etc. [1].

3.3 Continuous socialization

Secondary socialization is achieved from the age of 6 or 7 and adolescents must continue socializing from adolescence to death. Another rationale for socialization delimitation is the molding of the self. If individuals' emerging self (ego) and personality are created in infancy and adolescence—mostly by absorbing the emotions of others—social mature personality is enhanced through reflection in the mirror, and the focus is now on how the self is presented to others [1].

3.4 Positive socialization

This is sometimes called compatible socialization. Compatible or positive socialization is the process that leads to a person's conformism to the group or society to which he or she belongs. Individual conformity is to the expectations and requirements of a group or, more broadly, of society. Because it follows the social-normative concept, this is regarded as positive-normal socialization [23]. Existing and dominant in each society and partly with the moral and educational ideal that designs some models is social-cultural perspective [24]. It is a direction of socialization that complies with the requirements, values, and norms of socially permissible and desirable [1].

3.5 Negative socialization

Negative socialization is the polar opposite of positive socialization and does not conform to any moral or educational standard. Negative socialization is more commonly achieved in marginal, peripheral, and peripheral subculture groups. This socialization is frequently equated with the development of antisocial conduct [1].

3.6 Anticipatory socialization

According to Robert King Merton Anticipatory, socialization prepares a person for future duties and positions [25]. The individual has time to learn the behaviors they take the new position, rights, and duties associated with it, just as they do before executing a role. Language was integrated into social theory to investigate this type of socialization from the perspective of role statuses [26]. Merton claims

that social conformism to the ideals of a reference group, distinct from the group to which one belongs, determines anticipatory socialization. As a result, Merton believes that the debate on socialization between the concepts of passivity and activism is founded on a false problem, and to demonstrate this, the American sociologist has devised an anticipatory socialization paradigm [27]. The group of belonging represents meetings of individuals who fulfill the following three conditions: First, the individuals involved are in constant interaction. Second, they define themselves as group members. Third, those do not participate in the interaction to define it as a member of the group and the reference group, which is the points compared with that reference a sufficiently large proportion of individuals who belong to a social class, to establish the state that characterizes that social category [5].

3.7 Formal and informal socialization

Formal socialization is fully overlapping with education. But the distinction between formal and informal is not just at school. Therefore, formal socialization can be made by all institutions, organizations, bodies, groupings officially recognized prescribing precise objectives, rules, duties, privileges, and obligations [1], whereas the informal socialization is the process of assimilation of attitudes, values, behavior patterns acquired in the personal life [28]. Informal socialization agents are family, friends, colleagues, etc. According to [1], informal socialization can be performed even by professional force outside the classroom. Therefore, they need support activities outside the curriculum or, rather, educational activities carried out under informal curriculum.

3.8 Gender socialization

Gender socialization is the process that encourages or discourages certain behaviors and attitudes of a particular kind, which communicate what is right for the moment gender norms, which teaches a language that culture is communicated and transmitted permanently [16]. Gender socialization defines socialization treating culture as an essential part dichotomy of female-male by which an individual learns behaviors-specific values considered masculine or feminine specific [25]. Gender socialization occurs both at the direct or explicit and indirect or default. Through complex processes of socialization individuals acquire or learn and internalize their gender identity [16]. Trajectories of socialization, traditional and new ones, contribute to the preservation and transmission of gender stereotypes [29].

Most gender theories show that the best age for gender identity formation is between the ages of 2 and 6, when children's assimilative capability is at its peak. Children are socialized into gender roles through a range of activities, opportunities, encouragement, discouragement, events, ideas, and various sorts of guidance. As children grow and develop, gender preconceptions that they encounter at home are reinforced by other aspects of their environment, and consequently persist throughout childhood and adolescence [30]. There are inborn factors that lead boys and girls to choose a toy, factors related to biological differences between the sexes.

3.9 Professional socialization

Professional socialization, which refers to the knowledge and understanding of the nature of interpersonal relationships, as well as the creation and strengthening of personal relationships with team members, colleagues, bosses, and subordinates, can be considered a component of the professional integration process [31]. Professional socialization is not only the process of acquiring skills, behavior, and

knowledge specific to that profession but also desiring to belong to the reference group, effort involving the acquisition of norms and values, and behavioral patterns referential of group members. Thus, desire for belongingness to the reference group is considered as the first step toward professional socialization [1].

3.10 Spontaneous socialization

This is done by the spontaneous transmission of norms and values without using qualified personnel. It may accompany the planned socialization [6]. For example, the school has performed both forms of socializing process. The student acquires social experience both within lessons for purposes of the teacher and through experience that might be lived or observed social interaction of teachers with students, teachers, and among themselves [1, 32].

3.11 Dissocializing

In connection with socialization, there are two types of socialization processes: re-socialization and dissocialization. Dissocialization entails leaving a particular status and role and, as a result, abandoning the rules and behaviors associated with that status and function. It entails both physical and social seclusions. Separation of environments or people who have met their interaction demands and gives them support statuses to get rid of previously taught habits of behavior and interaction. Individual members of the so-called whole institutions, such as the army, monastery, prison, and so on, who are especially susceptible to this, whereas resocialization is a process of learning new roles, while abandoning previous roles [23]. We also come across circumstances where certain persons are undergoing dramatic resocialization, either positive or negative. The term “socialization” is used in this context to describe the process of transforming people who have engaged in antisocial behavior [33].

The aims of re-socialization is to learn new roles offered by the society as if professionalization, the professional reconversion, or rehabilitation of those who have committed deviant or delinquent roles and norms of life accepted by society [34]. Resocialization occurs in tandem with dissocialization and entails the orientation of learning and social control, as well as the uptake and expression of individual behaviors that are congruent with the new integrator system’s board of values and attitudes. It is important to note that the efficiency of resocialization is determined not only by individual receptivity, but also by the new agent of socialization’s level of social control and the degree to which previously gratifying elements are removed [1, 35]. These two processes of socialization, that is, de-socialization and re-socialization are not only concurrently happens, but interdependent [24].

4. Socialization across the life course

Socialization is not a one-time or even a short-term event rather a lifelong process [36]. We are not stamped by some socialization machine as we move along a conveying or belt and thereby socialized once and for all. Age norms and time-related rules and regulations play a big role in socialization throughout life. As we become older, we come across age-related transition periods that necessitate socialization into a new position, such as entering school, starting a job, or retiring [37]. Many of life’s social expectations are made clear and enforced on a cultural level. Through interacting with others and watching others’ interaction, the expectation to fulfill roles becomes clear [38]. In the process of socialization, adulthood brings

a new set of challenges and expectations, as well as new roles to fill. As the aging process moves forward, social roles continue to be evolved and changed. In the eyes of society, youthful pleasures are becoming less acceptable. Adulthood is defined by responsibility and commitment, and men and women are expected to settle down. Many people marry or form a civil union during this time, start families, and focus on a career path. Instead of being students or significant others, they become couples or parents [39].

Adults engage in anticipatory socialization, or the preparation for future life roles, in the same way as young children pretend to be doctors or attorneys, play home, and dress up. A couple who cohabitates before marriage, for example, or soon-to-be parents who read infant care literature and prepare their home for the upcoming arrival are also examples [40]. Financially capable adults begin planning for their retirement, conserving money, and researching future health care choices as part of anticipatory socializing. Regardless of the social system that supports it, adjusting to a new life position can be tough. In another way, socialization continues throughout maturity. In contrast to former eras, when one might expect to get married only once, live in a single region, and have a single career, current society demonstrates a rising fluidity of roles [25].

5. Agents of socialization

Agents of socialization are sometimes called operators. An agent of socialization is any person or institution that shapes a person's norms, values, or behaviors [25]. Agents and operators of socialization are the sources from which we learn or are influenced by socialization [41]. This socializing aid is beneficial. What happens throughout the socializing process? How do we learn to use the material culture of our society's objects? How do we come to believe in the nonmaterial culture's beliefs, values, and norms? This learning occurs through interactions with a variety of socialization agents, such as peer groups and families, as well as official and informal social institutions. The followings are the main agents of socialization [42]. These are family; the main agent of socialization; the peers which can put very important influences on students; the school that breaks bonding with parents which influence depending on the values the school and teachers hold, the mass media; the importance of its influences depends on what is read, watched, or listened to, and the frequency with which it is consumed neighborhoods, religion, daycare, sports and the workplace [42]. Some other authors categorize the above listed socializing agents as social group agents and institutional agents [13, 14].

5.1 Agents of social groups

The early experiences of socialization are frequently provided through social groups [11]. Expectations are communicated and reinforced by parents and subsequent peer groups. In these situations, people learn to use physical artifacts of material culture while also learning about society's beliefs and values [42].

5.1.1 Family

The most important and first agent of socialization is mothers and fathers, siblings, and grandparents, plus members of an extended family, all teach a child what he or she needs to know. Socialization can be both deliberate or structured and unconscious or unintended [41]. They demonstrate how to use objects, interact with others, and understand how the world works, for example. As you may know

from your own experience as a child or from your role as a parent, socialization entails teaching and learning about a seemingly endless number of items and concepts [42].

It is also important to keep in mind that families do not socialize children in a vacuum [16]. A family's ability to raise its children is influenced by a variety of social circumstances. We can use sociological imagination, for example, to see how individual behaviors are influenced by the historical period in which they occur [14]. If a parent smacked his son with a stick or a belt if he misbehaved 60 years ago, it would not have been deemed harsh, but today, the same conduct could be deemed child abuse [1, 43]. Classical sociologists like Karl Marx recognize that race, social class, religion, and other societal factors play an important role in socialization [44]. Likewise, children are socialized to abide by gender norms, perceptions of race, and class-related behaviors. For example, according to those who study gender using the individualist framework gender as a characteristic of the person, parents are believed to be the most significant source of gender socialization [45]. Hence, parents and families are the first agent of socialization [1].

5.1.2 Peer group

The first step in human group affiliation is the categorization of people into groups. A peer group is made up of people who are similar in age and social status and who share interests. Sociologists and other social psychology researchers have studied socialization and social development over the past 100 years. Around the age of three, children and adolescents begin to create peer groups, usually with other children who are neighbors, classmates, or siblings. Children learn how to connect with other children of similar ages as well as more complicated group behaviors such as leadership, teamwork, and cooperation in these groupings [46].

Peer group socialization begins in the earliest years, such as when kids on a playground teach younger children the norms about taking turns. This process continues as children develop into teenagers. Adolescents value peer groups in a new way as they begin to form their own identities independent from their parents and assert their independence [38]. Because children engage in different types of activities with their peers than with their families, peer groups provide possibilities for socialization. Adolescents' first significant socializing experience outside of their family occurs in peer groups. Surprisingly, research have revealed that while friendships are a high priority for adolescents, this is counterbalanced by parental influence [47]. As teenagers separate from their families through adolescence, peer networks become increasingly important. Within these groups, children learn how to behave in groups without adult supervision and have the opportunity to explore their sexuality. However, as teenagers grow into adults, peer pressure is often overshadowed by the obligations of employment, school, or family. Practitioners have been able to lead people through the socialization process as a result of their work. Social learning theory has been proven to be particularly useful in understanding socialization and the best strategies to lead a person through the process [5].

5.2 Institutional agents

The social institutions of our culture also inform our socialization [6]. Formal institutions such as schools, workplaces, and the government teach people how to behave in and navigate these systems [1]. Other institutions such as the media, religion contribute to socialization by flooding us with messages about norms and expectations [14, 48].

5.2.1 School

On average, children spend about 6 to 7 hours a day in school which makes it hard to deny the importance school has on their socialization [6]. Students are not only in school to learn arithmetic, reading, science, and other topics; it is also the system's evident function [8]. Schools also serve a latent function in society by socializing children into behaviors like teamwork, following a schedule, and using textbooks. School and classroom rituals led by teachers serving as role models and leaders regularly reinforce what society expects from children [44]. The hidden curriculum, or the informal teaching done by schools, is how sociologists characterize this component of schools. Children learn that there are winners and losers in society when they engage in a relay race or a math competition. Children experience cooperation with other individuals in cooperative conditions when they are obliged to work together on a project [14]. During the day, children learn how to deal with bureaucracy, rules, and expectations, as well as how to wait their turn and remain still for long periods of time [17]. The hidden curriculum includes the latent functions of competition, teamwork, classroom discipline, time awareness, and coping with bureaucracy. Schools also help children socialize by explicitly teaching them about citizenship and nationalism. There are also other institutional socializing agents such as religion, government, mass media [6].

6. Content and features of socialization

Skills, knowledge, behaviors, and cultural values are passed down to future generations both formally and informally [49]. Formal or direct instruction and education, such as in schools, colleges, and religious institutions, is used to formalize transmission. Informal socialization, on the other hand, is carried out through folkways, customs, and cultural values, among other things [17]. The more agreeable the socializing agencies are, the more safely and quickly socialization occurs. According to studies, when there is a disagreement between the ideas, models, and abilities passed down by a child's peer group or between home and school, the individual's socialization is slowed and uncertain [6, 41]. Socialization inculcates basic discipline and self-controlling mechanisms. An individual learns to control his impulses and projects a disciplined behavior to gain social approval or for the sake of a future goal. Socialization helps to control human behavior [50]. This control through the process of socialization is exercised to maintain social order. Societies depend heavily upon effective socialization to internalize social norms and values as individual's guides and motives to action [50]. It does not cease or stop when a child becomes an adult, internalization of culture is continued over generations. Through this internalization, society perpetuates itself. Its members transmit cultural values to the next generation, and thus, society continues to exist [6]. Socialization has been depicted as a social learning process that is very important to the emergence of social selves as well as to the survival and development of individual societal relations and their cultural context [51]. More specifically, the contents of socialization include a shared system of meanings and symbols. These shared systems include a set of values, beliefs and practices, and shared forms of communication [52].

6.1 Values and beliefs

Values are a cultural standard for discerning desirable states in a society like what is true, good, just, or beautiful [43]. Values are firmly ingrained in a culture's ideas and are essential for transmitting and teaching them. People's beliefs are their

core tenets, attitudes, and convictions. Individuals in a society hold different opinions, but they all have common ideals. To show the distinction between value and beliefs, North Americans believe that anyone who works hard enough will be successful and affluent. The value that riches is good and desirable lies under this idea. Values assist in the shaping of a culture by indicating what is good and bad, beautiful and ugly, and what should be pursued or avoided [39]. Values often suggest how people should behave, but they do not accurately reflect how people do behave [43]. Classical sociologist like Harriet Martineau made a basic distinction between what people say they believe and what they do, which are often at odds [53]. Values depict an ideal culture; they are the ideals that society wishes to embrace and live up to. However, ideal culture differs from real culture, which is based on what happens and exists in society. There would be no traffic accidents, murders, poverty, or racial strife in an ideal culture [44]. However, in real life, police officers, legislators, educators, and social workers work tirelessly to avoid or correct such mishaps, crimes, and injustices [54].

The cultural standards used for the transmission of culture form one to the next generations and separate the potential consequence. For example, the number of unplanned pregnancies among teens reveals that not only is the ideal hard to live up to, but that the value alone is not enough to spare teenagers from the potential consequences of having sex. There are also several methods in which societies attempt to put values into practice. These could be in the form of prizes, sanctions, or penalties. People are frequently rewarded for adhering to society's conventions and upholding its principles. A youngster who assists an old woman in boarding a bus, for example, may be greeted with a grin and a thank you. A quarterly incentive may be given to a business management who improves profit margins [55].

People sanction particular behaviors by granting their support, approval, or permission, or by formally disapproving and refusing to support them [44]. Sanctions are a type of social control that encourages people to follow social norms. People may follow rules in the hopes of receiving beneficial consequences. Good grades, for example, may result in praise from parents and teachers [22]. People are punished when they act against a society's values. Other passengers may scowl or even reprimand a boy who pushes an older woman aside to board the bus first [44]. Breaking norms and rejecting values can lead to cultural sanctions such as earning a negative label or to legal sanctions. Values are not static, and vary across time, culture, and between groups as people evaluate, debate, and change collective societal beliefs. For example, cultures differ in their values about what kinds of physical closeness are appropriate in public [56].

6.2 Norms

Norms are the other content of socialization that might be transferred from one to the next generation. Often times, norms are described as how people are expected to behave in certain situations. Sociologists refer to norms as the visible and invisible rules of conduct that shape societies. A norm is a generally accepted manner of doing things, as opposed to values and beliefs, which specify desirable conditions and convictions about how things are. Norms explain how to act in accordance with what society has determined to be good, right, and significant, and most people of society adhere to them since breaking those results in some form of punishment. Norms are defined as the rules that govern behavior in general [28].

Norms can be categorized as formal and informal [18]. Formal norms are written regulations that have been established. They are behaviors that have been worked out and agreed upon to suit and serve the majority of people. Employee manuals, college entrance exam requirements, and no running in swimming pools are all

formal rules [17]. Of the numerous forms of norms, formal norms are the most detailed and precisely expressed, as well as the most rigidly enforced. Even formal norms, however, are enforced to varied degrees, as cultural values reflect [17, 57]. There are many formal standards, but there is also a vast list of informal norms, or casual behaviors, that are commonly accepted. Observation, imitation, and general socialization are all ways that people learn informal norms. Some informal norms are taught directly, while others are learned by observation, such as the repercussions of others breaking a rule. Children learn quickly that picking your nose is subject to ridicule when they see someone shamed for it by other children. Although informal norms define personal interactions, they extend into other systems as well. Informal norms dictate appropriate behaviors without the need for written rules [17].

6.2.1 Mores, folkways, and taboos

Mores, folkways, and taboos are all subcategories of norms. Mores are the social standards that express a group's moral values and principles. They are founded on social expectations. Violations can result in significant repercussions. The most powerful mores are protected by law or other formal rules. Murder, for example, is deemed immoral and punished by law. More often than not, social mores are judged and guarded by public opinion or an unwritten rule. People who break social norms are considered dishonorable [17]. They can even be avoided by some groups. For example, the mores of the school system require that a student's writing be in the student's own words or else the student should use special stylistic forms such as quotation marks and a system of citation for crediting the words to other writers. If they did not, it is considered plagiarism or cheating. Violations of this rule have serious ramifications, including expulsion and exclusion. Folkways, unlike mores, are norms that have no moral grounds or grounds. They are based on a person's social preferences. Folkways guide proper behavior in everyday cultural practices and expressions. When welcoming another individual, folkways advise whether to shake hands or kiss the cheek. Folkways are not serious enough to be termed mores, but they are serious enough to end a relationship before it really gets started. Folkways may be minor etiquette, but they are far from insignificant. Taboos are activities that are strictly prohibited by sincerely held sacred beliefs [58].

They are the most powerful and deeply rooted conventions. Their misdeeds and misconducts elicit revulsion or disgust, as well as harsh retribution. The word taboo originally meant sanctified, inviolable, forbidden, unclean, or cursed. The restriction had a clear supernatural context; the deed had offended the ancestors and elicited their wrath [1]. In everyday life, many mores, folkways, and taboos are taken for granted. To get through daily routines smoothly, people must behave without thinking; we cannot stop and examine every movement. Individual efforts can be continuously coordinated and concerted thanks to the many degrees of norm. These several levels of norm assist people in navigating their daily lives within a specific culture, and their study is essential for comprehending cultural differences [59].

6.2.2 Symbols and language

Humans are constantly trying to make sense of their surroundings. Symbols are tangible marks that stand in for or symbolize something else, such as gestures, signs, objects, signals, and phrases. Symbols can help us understand the underlying experiences, statuses, states, and ideas that they represent. They communicate recognizable meanings that are universally understood [44]. You cannot say anything that is, anything you say that has any meaning at all is universal. The world is filled

with symbols. Some symbols are highly functional; for instance, stop signs provide useful instruction. As physical objects, they belong to material culture, but because they function as symbols, they also convey nonmaterial cultural meanings. Some symbols are only valuable in what they represent. Many objects have both material and nonmaterial symbolic value. Therefore, symbols will be socialized content [60].

7. The process of socialization in organization

Parents impart societal standards to their children, but socialization is not a one-way process. Students are active participants in the socialization process. They do not receive from the socializer in a passive manner. They are physically or culturally predisposed to be socialized more or less easily in various aspects of their lives. They process socialization-related information, accepting or rejecting it as appropriate. They are more accepting of some forms of control than others, in part because some forms of misbehavior, such as bodily and psychological injury to others, are fundamentally more problematic than others, such as social convention violations [61]. Some steps are required in the socializing process. Stages of socialization are a term used to describe these steps [62].

The initial stage of socialization is investigation. During this stage of the socialization process, an individual assesses a group to see if it is a good fit for him or her. The group follows suit. The end of this stage occurs when the group extends an invitation to the newcomer and the newcomer accepts. The second phase is known as socialization. The new member adopts the culture of the group, whether it is correct or wrong, and good or bad. They blend in with the group, adopting its norms, attitudes, and beliefs. The maintenance stage is the third stage of the organization's socialization process. The new member and the group agree what the group expects of the new member, such as how they should act or another contribution, during the maintenance stage. If an individual fails to meet collective expectations, they can be kicked out, or they can renegotiate and rejoin the group. The other option is to re-socialize. Depending on the conclusion of the maintenance stage, the member will either be welcomed back into the group or taught to act appropriately, or they will be evicted and forced to learn to live outside of it. The last stage is the remembering stage. In this section, people who have left the group reflect on their experiences [17, 44].

8. The benefits and advantages of socialization

Socialization provides us the means *via* which we gradually become able to see ourselves through the eyes of others, learning who we are, and how we fit into the world around us [7]. Furthermore, to function successfully in society, we must learn the fundamentals of both material and nonmaterial culture, including everything from how to dress to what is appropriate attire for a specific occasion; from when we sleep to what we sleep on; and from what is considered appropriate to eat for dinner to how to prepare it using the oven. Without socialization, we are unable to function socially [14, 20]. Social cohesion might be possible through socialization [63].

8.1 Advantages of socialization

There are several benefits of socialization. Socialization reduces the loneliness, which makes individuals feel better, building constructive relationships unless

individuals have bad peer groups as found in many schools, improving the growth and development of a person, occupying the mind and keeping it ticking so you can avoid things like dementia, a reduction in stress and anxiety, learning how other cultures or groups like to do things or enables in understanding their perspectives and attributes, and getting emotional, physical, and spiritual support [26]. Individuals and the cultures in which they live both benefit from socialization. It demonstrates how inextricably linked humans and their social worlds are. To begin with, society replicates itself through imparting culture to new members. It will cease to exist if future generations of society do not learn its way of life [17]. For a society to exist, whatever distinguishes culture must be passed along to newcomers. We discover who we are and how we fit into the world around us through socialization and social contact [8]. Furthermore, to function successfully in society, we must learn the fundamentals of both material and nonmaterial cultures, including everything from how to dress to what is appropriate attire for a specific occasion; from when we sleep to what we sleep on; and from what is considered appropriate to eat for dinner to how to prepare it on the stove. Our society's expectations for dining out are instilled in us through socialization. Different cultures' manners and customs are learnt through socialization [17].

Because university campuses are an open atmosphere, socialization is also very important in higher learning institutions. During their studies, students in an open atmosphere keep contact with others who are not in schools, such as friends, parents, and employers. When we say university students' socialization, we are referring to the process by which college students absorb social culture knowledge and grow into independent and mature persons. Two items will be considered in this case. Perspectives are from both the society and the individual. They still need to learn professional information from a social standpoint. On the other hand, people must develop a suitable philosophy for themselves, as well as a proper worldview and value idea. College students are a distinct social group with expectations and hopes from both their parents and society. However, there have been concerns in recent years of rising issues in numerous campuses. For instance, studies reveal that in China, students are suspended from school, skip courses, or even commit suicide, among other things. Anxiety, fragility, and other difficulties could be caused by social isolation and a lack of proper assimilation to the school and college environment. As a result, socializing may be a viable solution to the issues.

8.2 Disadvantage of socialization

Individuals will be socialized for unintended behaviors. There will be deviants. Deviance is a breach of social norms. The act of deviating from societal norms is known as deviance. Similarly, aberrant behavior violates social norms and social codes in the workplace, home, and marriage, among other places. Everything is deviance, and behavior is known as deviant behavior, whether it is breaking a pledge or breaking a state law. It is our nature to stray. Deviancy in one generation/society may be a noun in another. Individuals will mingle and be exposed for aberrant cases throughout the transmission of skills, knowledge, attitude, and beliefs [64].

9. Current trends of socialization in higher learning institutions

From its beginnings, socialization has been a central term in the social sciences [3]. It is significant because it is necessary for the survival of communities and cultures, as well as for individual development. There is a discussion on socialization,

with people debating whether we are the outcome of nature or socialization. According to some experts, who we are is a result of the relationships that surround us [17]. Others claim that our genetic makeup determines who we are. Naturalists believe that our personalities, skills, and interests are predetermined before we are born. As a result, we are dependent on nature in this regard [16]. Scholars use the study of twins as one method of illustrating the influences of nature. Some studies looked at identical twins who were raised apart [65].

In certain circumstances, the pairs had the same genetics but were socialized differently. Researchers can learn more about how our temperaments, likes, and abilities are influenced by our genetic makeup versus our social environment by investigating the degree to which identical twins raised apart are alike and different, despite the fact that this type of situation is uncommon [17]. Though genetics and hormones play a significant impact in human behavior, biological explanations of human behavior have serious sociological faults, especially when used to explain the complex aspects of human social life such as homosexuality, male aggression, female spatial skills, and so on [66].

In most cases, biological explanation logic is divided into three sections. These are the identification of a supposedly universal human quality or trait, an argument for why this behavior makes it more likely that the genes that code for it will be successfully passed down to descendants, and the conclusion that this behavior or quality is hard-wired or difficult to change [17, 67]. However, claiming that males are naturally aggressive because of their hormonal structure ignores vast differences in the meaning and practice of aggression across cultures, as well as vast differences in what counts as aggressive in different situations, not to mention the fact that many men are not aggressive by any definition, and that men and women both have male hormones like testosterone [16]. In this case, the sociologist is more concerned with the fact that nonaggressive males are frequently referred to as sissies. This suggests that a normative structure within a male culture is more likely to explain male violence than a genetic or hormonal structure [68]. The greater interest of sociology is the impact of society on human behavior, the nurture side of the nature vs. nurture debate. Genes are never expressed in a vacuum, regardless of the role genes or biology play in our lives. The environment has always had a significant impact [69].

Sociologists all agree that socialization is essential for healthy individual and societal development. The question is how academics from the three major theoretical paradigms approach socialization. Theoretical models are used for studying socialization through Durkheim's concept of socialization as a starting point. The dominant sociological approaches to the study of socialization in the 1950s, 1960s, and early 1970s were Durkheim's concept of socialization, Parsons' development of an influential socialization model, and the theory of reproduction and its development in the late 1950s and early 1960s [60]. These socialization models are classified as the functionalist perspective, the conflict perspective, the symbolic interactionist perspective—also known as the interactionist perspective—or simply the micro-view [47, 60]. All of these sociological perspectives provide various explanations for the social world and human behavior in relation to the socialization process [47].

Individual and collective development are influenced by socialization, as is the reproduction of status hierarchies and structural inequalities [66]. Socialization does not mean renouncing all its dimensions and influences. Although socialization is a relatively new concept, it refers to a reality that predates human societies. The issues of socialization, or the integration of new members into society, have been studied in philosophy, anthropology, and history, and are now being studied in interdisciplinary social sciences such as sociology [47]. In sociology, socialization has been approached in two ways. These are from the standpoints of society and the

respective socializing agents, as well as individuals in the process of socialization and their respective social worlds [47]. The central question in the first case is how a given society transmits or instills values, beliefs, norms, and lifestyles. The second focuses primarily on individuals' activities during the processes of appropriation, learning, and internalization, as well as socialization, through which they become self-conscious and develop the abilities to integrate, communicate, and participate in the society and culture in which they live. The first is more common in traditional sociology, while the second is a goal of the new sociology of childhood socialization [60].

In sociological theory, there are five generations of thinkers in the history of study of socialization [47]. These are the pioneers of the eighteenth century, the founders of the early to mid-nineteenth century, the institutionalization of the early twentieth century, the compilers of the mid-twentieth century, and the constructivists who now overlap with other trends such as the return to grand theory or postmodernism. So, the issue of socialization neither began nor ended with Parsons [47]. Rather, Talcott Parsons falls under the fourth generation of this scheme, the so-called compilers, and a group of scholars and teachers who worked hard to make sociology a rigorous scientific discipline, a science of society. The fourth generation attempted to find a synthesis and convergence of the various currents of thought that had preceded them, whether conservative or critical. Within this generation, two groups predominate: the conservative-minded sociologists, led by Parsons, and the authors involved in the development of critical theory of society, known as the Frankfurt School of sociology [47].

All scholars agree that socialization is required for the learning of culture and society values. It is also agreed that socialization occurs as a result of internalization [70]. Individuals learn and internalize cultural norms, codes, and values through the multifaceted process of socialization. This procedure allows people to join and remain members of one or more social groups. Individuals acquire social and cultural competencies through interaction with other people and social institutions, as well as responses to their macro- and micro-sociocultural contexts [16]. This process occurs in social settings that both allow for and limit interaction and opportunity. As a result, social expectations for people coming of age are not uniform [60]. Similarly, the mechanisms and outcomes of socialization differ depending on the organization, geographical space, sociocultural context, and sociohistorical time. Furthermore, socialization processes within a society may differ depending on the power and status of their subgroup identities. Many members of society must deal with the competing influences of the dominant culture and marginalized subcultures [63]. Scholars have spent the majority of their time focusing on the socialization processes of childhood and adolescence. Adaptation to and internalization of social norms, values, and behaviors, on the other hand, continue throughout adulthood [16]. Individuals go through identity, family, educational, and career changes and transitions with their generational cohort. As a result, their social roles may shift and change throughout their lives [71].

Socialization facilitates processes of inclusion and participation in society for a wide range of individuals and groups. At the same time, socialization helps to maintain social order by reproducing existing stratifications based on race, gender, and social class. Socialization processes continue to shape generational cohorts and intergenerational dynamics, as well as various social institutions [72]. Socialization is associated with the stability and maintenance of society because it prepares individuals for membership in society [73]. The socialization process in sociology has been approached from various viewpoints. These were the functionalist, interpretive reproduction, conflict perspective, symbolic interactionist, and social construction of reality. Currently, the integrative approaches or structuration

viewpoint is a crucial to study socialization in an organization including the higher learning institutions [74]. This means that socialization of students as new comers will not be determined by the preexisting structure, norms, value, and rules of the organizational environment, but rather the new comer can influence, change, and create new rules, values, and rules in a given organization. Therefore, three important socialization processes are strong in the undergraduate socialization process of students in the higher learning institutions. These are individuals, groups, and organization source of socializing influence, the social process through which these sources of socializing influences are encountered and responded to by students, and resultants of socialization outcomes in various college settings [18].

This method to comprehending undergraduate socialization raises two basic problems concerning individual socialization in an organizational setting. One is about social interaction; what are the interpersonal processes that people go through to get socialized? The other is about organizational structure: What are the different qualities of a higher education institution as a socializing organization that has an impact on students? The relevance of taking into account both individual and organizational variables when investigating socialization can be expressed in the following way. Individuals may become differently socialized as a result of differences in their past experiences, motives, and talents, as well as disparities in the structure of the social situations in which they interact [18].

Overall, undergraduate socialization can be thought of as a complex process in which students enter college as new men with specific values, aspirations, and other personal goals, and are exposed to a variety of socializing influences while in college, such as normative pressures exerted through social relationships with college faculty and peers, and parental pressures, and participation in noncollege reference groups; evaluates the importance of various normative pressures experienced in achieving personal goals; and modifies or preserves values, aspirations, and personal goals maintained at college entrance [75]. Student background characteristics/precollege features, noncollege pressures, college experiences and behaviors, interactions with socialization agents, and student-parent relationships are some of the variables that may influence undergraduate students' socialization in higher learning institutions. The relationship between the variables that affect students' socialization and the conceptual framework of undergraduate students' socialization at higher learning institutions is depicted in the graphs below [74].

10. Conclusions

Individual traits and the range of students' experiences within higher education institutions influence the complexity of socialization processes, which can be complementary. In addition, as shown at **Figure 1**, there are conceptual ways to studying undergraduate socialization in higher education institutions as organizations. As a result, it is reasonable to expect that research in this area will incorporate both wide conceptual foundation and rigorous empirical approaches to elaborate, extend, and deepen our understanding of socialization in higher education. Far too often, studies only pay lip service to conceptual models, addressing a small number of variables and failing to make conclusions about the models when discussing results. Paying attention to stakeholders in research, whether academic or not, can reveal vital information regarding conceptual frameworks as well as the sorts and targets of suggestions that may be made. The frameworks were crude detours from a strictly structural functional approach to studying student socialization in higher education. Each looked at additional paradigmatic ways of framing socialization beyond structural-functionalism that put more emphasis on human motivation and

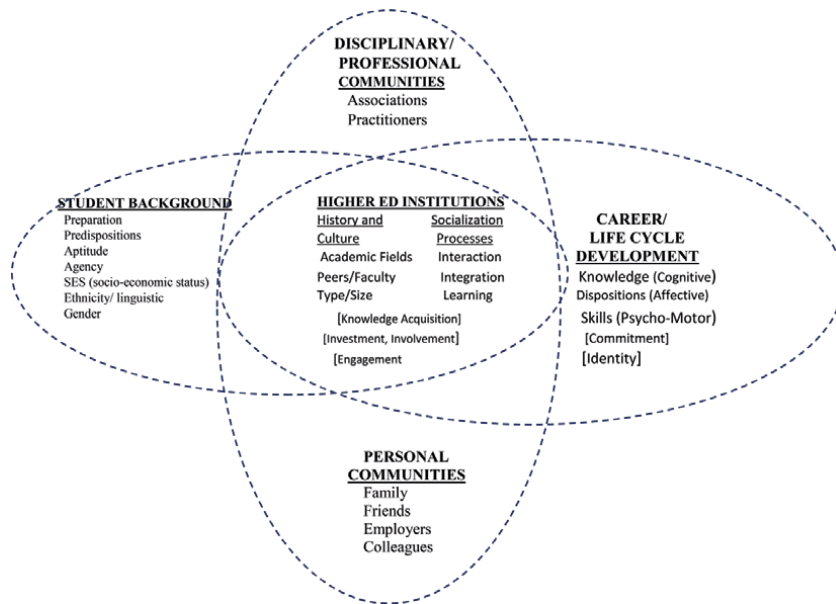


Figure 1.
 Comprehensive framework for student socialization in higher education (adopted from [18, 74, 76]).

actions in a restricted way. As a result, we came upon Anthony Giddens’ structuration theory.

According to structuration theory, social behaviors organized over space and time are more important than individual actor experiences or the presence of any type of societal whole. Human social interactions are recursive, just like some self-reproducing objects in nature. That is, they are not formed by social actors, but are constantly produced by them through the techniques by which they express themselves as actors. Agents duplicate the conditions that allow these activities to take place in and *via* their actions. Structuration theory thus recognizes the significance of human agency in social processes, as well as its potential for mitigating the effects of social structures (such as normative environments) on college students. Students have the ability to change the very higher education situations in which they participate, according to structuration theory.

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The Influence of Indian Ancient Educational Systems on India's Educational Strategy

Sukanta Kumar Naskar and Sushovan Chatterjee

Abstract

The study of the nature of knowledge and philosophical traditions is the foundation of the ancient Indian education system, which aims to enable human life not only to improve personal economic conditions, but also to improve the social, moral, and spiritual aspects of life. People are not only concerned about improving human life, but also realizing the “higher truth” from darkness to light, that is, “Tamaso Ma Jyotirgamaya”. Therefore, education is not only a means of making money but also contributes to the development of mankind along with enriching society. Therefore, our Indian sages or masters are committed to understanding the super-smart world and the use of spiritual power and adjusting their lives accordingly. The ultimate goal of education appears in Chitti Vrittinirodha (controlling spiritual activities related to the so-called materialist world). Therefore, education is an important means to make people's potential development in a positive direction so that people can live in a society full of dignity. In the latest “National Education Policy-2020 (NEP-2020)” issued by the Indian government, many suggestions are made to integrate the current education system into the ancient education system. The rich heritage of ancient and eternal Indian knowledge and thought has always been the guiding principle of this policy. In Indian thought and philosophy, the pursuit of knowledge (Jnan), wisdom (Pragyaa), and truth (Satya) have always been regarded as the highest of mankind.

Keywords: Indian education system, education policy, ancient and modern education

1. Introduction

The best practices of ancient education systems can be implemented in modern education systems. The purpose of modern education is also to cultivate personality, idealism, and philosophy, not to build wealth and live a simple life. However, due to the many problems encountered in the educational environment, there is a lack of cordial relations between teachers and students. The linguistic, spiritual, and religious aspects of Sanskrit must be studied to protect it because it is full of peace, humanity, and brotherhood. Education level is one of the main indicators of the welfare, prosperity, and security of people in any society. Education is a process that equips individuals with daily life skills. Education is not only a system for imparting and acquiring knowledge [1] but also an attempt to spread the cultural norms of the group to its young members.

Ancient India was a country of great innovations [2–4]. Therefore today, India fails to continue its innovativeness due to collaboration, invasion, industrialization, and privatization. Over the time India neglecting in using innovation and consequently lost imagination power. Borrowed methods of education and teaching learning from western countries are integrated to produce pass outs without having any qualitative value addition suitable for Indian education system. Western values and culture, western literature, westernized STEM, western heroes are predominantly dominating Indian education system. Children produced through this system are becoming totally American or British colonial and have lost themselves. Indians are known primarily by their culture, rich heritages, their own heroes, Kalidasa was the greatest poet ever in the world but fact is that most of our children are not aware of him and his contribution. To revive Indian tradition, it is advisable that student should study contemporary Indian philosophy and value system [5]. Greatest books like - foundation of Indian culture, the life divine, syntheses of yoga expected to be a part of our curriculum. Therefore, children should develop awareness about their roots in their history, literature, and Indian heroes.

2. Foundation of ancient Indian education system

If we look back at the history of the ancient education system, we should be proud. With the transformation of the Indian education system, our ancient education system must now be reconsidered. A characteristic of ancient India or Hindu civilization [2] is that its shaping and shaping in the course of its history is shaped by religion than by political or economic influences. We know mathematics, we deduced theorems, we discovered planets, we calculated the distance from the sun to the earth thousands of years ago, and there are many such brilliant facts and data to prove it. However the question arises, how can India be so great? How to acquire this knowledge and acquire skills? Research shows that India's solid education system is the reason. As Swami Vivekananda cited, education is aimed at "Man Making and Character Building." Similarly, we must realize that the goal of our ancient education system is to "train the integrity of life" and develop the moral qualities of men and women to fight for survival in society [6].

A strong inclusive education was encircled with three central objectives:

- I. Growth of the soul and its powers and possibilities- For an individual
- II. Preservation, strengthening, and enrichment of the nation-soul and its Dharma- for the nation,
- III. To raise both the individual and nation into powers of the life and ascending mind and soul of humanity.

Ancient India was a great country of innovation. However today, India is not innovative, mainly because of cooperation, invasion, industrialization and privatization. India has lost its imagination and ability to innovate. The school that produced the clone, the university taught Western values, Western literature, Western mathematics, and Western heroes. These children have completely become American or British colonies, completely lost in themselves. Indians are known popularly by their glorified culture, rich heritages, contributions of their own heroes, Kalidasa [6] was the acknowledged poet in the world but fact is that most of our children do not have much idea about him and his contribution therefore; to revive Indian tradition the only solution is that student should study contemporary Indian philosophy and value

system. Famous books like - foundation of Indian culture, the life divine, syntheses of yoga expected to be a part of our curriculum. Therefore, children should develop awareness about their roots in their history, literature, and Indian heroes.

3. Processes of education

Education is concentrated in the three processes of Sravana, Manana and Niddhyaasana [7, 8].

- **Sravana**-Means listened and understood. One should understand that this is not only hearing, hearing is different, and hearing is different. When the truth fell from the teacher's mouth, Sravana was listening to the truth. Technically speaking, knowledge is called Sruti or what the ear hears, not written content.
- **Mañana**- The second knowledge process is called Manana, which means that the student must think about the meaning of the lessons his teacher verbally teaches him so that they can be fully absorbed. Manana is reflecting what we are listening to (Shravana). It is discussing the truth of the point of view. In this process, especially the Guru (Guru) will ask questions, students will answer, and discuss this in a small group.
- **Nidhyaasana**- The third step is called "Nidhyasana", which means that the student must fully understand the truth taught so that he can practice the truth instead of just explaining it in words; this becomes the realization of truth. Manan (reflection) was a method especially suitable for highly intelligent students.

It was compulsory practice that every student should go through three stages (Sravana, Mañana, Nidhyaasana) every day. Each stage has its importance, and although it seems that they are very simple but they are very effective.

The Gurukul education system existed in ancient times. Students used to live in Gurukul, learn everything under effective supervision of Guru, and then implement them to find solutions relevant to real-life problems. The master imparted all knowledge, such as religion, Sanskrit, scripture, medicine, philosophy, literature, war, country strategy, astrology, history, etc. Learning is not only about reading books, but also about connecting them with nature and life. It is not memorizing certain facts and figures, nor is it writing the answers in the exam. The students of the disciplinary forces range from rich families to poor families. Every student has lived a very simple life with ashma. Discipline, rules and regulations are rooted in morality and religion. Any violation of the rules is considered a crime and should be punished.

4. Method of teaching

Two teaching methods were practiced during the Vedic Vedic period. The first method is Oral, and the second method is based on Chintan's ideas [2]. In oral teaching, students should memorize mantras (Vedic hymns) and Richayes (Verse of Riggeda) so as not to be changed by mistake, and to retain their original form. Thinking method is another part of teaching method. In this way, an attempt was made to preserve the Vedic Sutras and Ricias. The principle of thinking Manana Shakti is considered to be higher than the subject of thinking [7, 8]. Therefore,

the primary theme of education is thought itself. According to the ancient Indian educational theory, the training of thinking and thinking process is essential to the acquisition of knowledge. Therefore, students must mainly conduct self-education and realize their own intellectual growth. Education is reduced to three simple processes of Sravana, Manana and Nidhyaasana [2]. When the truth fell from the teacher's mouth, Sravana was listening to the truth. Technically speaking, knowledge is called Sruti or what is heard by the ear, rather than what is seen in writing. The second knowledge process is called Manana, which means that the student must think about the meaning of the lessons his teacher verbally teaches him so that they can be fully absorbed. The third step is called "Nidhyasana", which means that the student must fully understand the truth taught so that he can practice the truth instead of just explaining it in words. Knowledge must lead to realization. Just as in the modern age, teachers encourage smart students by guiding them to conduct research. In ancient times, too, Manan (reflection) is a method especially suitable for highly smart students.

5. Four Vedas: the sources of the philosophy of the in ancient India

The Vedas are considered to be the oldest literature in the world and the original source of the philosophy of life in ancient India. The study of these Vedas will give people a thorough understanding of not only the philosophy of life but also the overall structure of ancient Indian culture. Therefore, all the literature and philosophy of India, the Upanishads, Smritis and Puranas recognize the superiority of the Vedas [9]. The Vedas occupies a very important place in Indian life. The foundation of Indian culture is the Vedas, the number of which is Rigveda, Samaveda, Yajurveda and Atharvaveda [7, 8, 10]. The Vedas have their own characteristics. Through them, we can understand the culture, civilization, life and philosophy of the ancient Indian people. The Vedas symbolize the main goal of human life, which is pursued by the life-and-death world in the world. The Indian philosophy of life has never accepted that life is purposeless. Before introducing Vedas education in detail, it is necessary to make a brief assessment of these four Vedas, because the education of that period was based on them.

5.1 The Rig Veda

The Rig Veda is not only the earliest work of Hindus, but also the earliest work of all Indian European languages and humans. It laid the foundation of Indian civilization built up by generations. Broadly speaking, it is based on a simple life and noble ideas. Some of Rig Veda's prayers, such as the well-known Gayatri mantra found in Samaveda and Yajurveda, touch the highest point of knowledge and have maintained the human soul. Rig Veda itself exhibits an evolution, and the history of Rig Veda is the history of the culture of that era.

5.2 Other Vedas

After Rigveda, three Samita schools appeared one after another, Sama, Yaju and Atkhwa. These Vedic studies ushered in a new kind of literature. The order of the hymns by Rigveda does not match the order of the sacrifices; there are so many hymns that have nothing to do with Mena or sacrifices. In contrast, among the Sama, Yaju, and Atalwa tribes, hymns follow closely in the order of sacrifice. The priest is constantly evolving. Later, higher education associates itself with the clergy and the etiquette aspects of religion. The educational curriculum for all students

called Brahma is the same. Each of them must be proficient in the melodies of the scriptures and the ritual aspects of yajna.

However, with the passage of time, due to the increasingly complex nature of the form of sacrifice, people strongly felt the necessity of division of labor, because no single pastor was expected to specialize in the three aspects of yajna.

5.2.1 The Sama Veda

The compilation of all hymns quoted on the occasion of Soma Yajna is called "Sama Veda".

5.2.2 The Yajur Veda

Yajur Veda is a collection of prose mantras. Although Hotri is responsible for singing hymns during sacrifices, the first class of priests is the hymns sung by Adhvaryus, which is closely related to the dedication activities. Therefore, a separate training school was established to educate these priests. India's basic prose literature culminates in the Upanishads, while it exists in basic forms in Yajurveda. We caught a glimpse of the religious and secular aspects of Indian life in Yajurveda.

5.2.3 The Atharvaveda

In the beginning, only three Vedas were welcomed. Over time, the fourth Veda was also called Atarvaveda. Its content is more original. Unlike the previous Vedas, most of the mantras in this Vedas are not adapted from Rig Veda. Atharvaveda has a distinct secularity, vivid descriptions of various arts and sciences.

6. Teacher Pupil's relations

In the Indian concept, the teacher is the spiritual and intellectual father of the taught. Without the help of teachers, it is impossible to carry out any education. He is considered a "guru", a friend, a philosopher and a guide [10]. If they are poor, the teacher should arrange boarding, accommodation and clothes for the students. Fees are a clear example of such maintenance by teachers. This is a moral obligation for teachers. The teacher must begin to educate his students within one year of his coming. In addition, the teacher is required to teach his disciples everything he knows.

The Hindu theory is that teachers should be paid only at the end of the entire course. It is called "Guru Dakshina" [9–12]. Of course, teachers have the freedom to refuse. The actual amount of teacher's remuneration depends on the guardian's ability. Poor students cannot afford to pay any remuneration for housework, including various manual tasks such as fetching water and collecting wood from the jungle for sacred fire. The poorest of the poor can receive education from teachers. Ancient educational theories and practices prohibit teachers from charging students any fixed fees. Therefore, teachers in ancient India did not have a fixed income. Both Hindus and Buddhist thinkers believe that the relationship between teachers and students is very filial.

7. Present perspective of education

The Indian system of education in general and higher education in particular has always responded well to the challenges of the time. Two decades ago, when the system came under severe criticism that it had allowed the mushrooming of higher

education institutions (HEIs), compromising the quality of educational offerings, the Ministry of Human Resource Development (MHRD), now Ministry of Education (MOE) and the University Grants Commission (UGC) took initiatives to restore the standards of education. Consequently, the National Policy on Education (2020) that laid special emphasis on upholding the quality of higher education in India noted certain policy initiatives, keeping in parity with previous policy (1986) [9, 11–13].

Few recommendations [11, 12] of National Education Policy 2020 (NEP 2020) towards achieving best quality in Education System.

- Establishment of a National Research Foundation (NRF) to fund outstanding peer-reviewed research and to actively seed research in universities and colleges.
- Higher education expected to contribute significantly towards sustainable livelihoods and economic development of the nation. As India moves towards becoming a knowledge economy and society, more and younger Indians are likely to aspire for higher education.
- All colleges currently affiliated to a university shall attain the required benchmarks over time to secure the prescribed accreditation benchmarks and eventually become autonomous degree-granting colleges
- Model public universities for holistic and multidisciplinary education, at par with Indian Institute of Technology (IITs), Indian Institute of Management (IIMs), etc., called MERUs (Multidisciplinary Education and Research Universities) will be set up and will aim to attain the highest global standards in quality education
- In order to maintain uniform standards for teacher education, the admission to pre-service teacher preparation programmes shall be through suitable subject and aptitude tests conducted by the National Testing Agency (NTA), and shall be standardized keeping in view the linguistic and cultural diversity of the country
- A National Mission for Mentoring shall be established, with a large pool of outstanding senior/retired faculty – including those with the ability to teach in Indian languages – who would be willing to provide short and long-term mentoring/professional support to university/college teachers
- The National Skills Qualifications Framework (NSQF), the monitoring agency of quality will be strengthened further for each discipline vocation and profession. Indian standards will be aligned with the International Standard Classification of Occupations maintained by the International Labour Organization
- Policy envisions a comprehensive approach to transforming the quality and quantity of research in India. This includes definitive shifts in school education to a more play and discovery-based style of learning with emphasis on the scientific method and critical thinking
- The regulatory system of higher education will ensure that the distinct functions of regulation, accreditation, funding, and academic standard setting will be performed by distinct, independent, and empowered bodies. These four structures will be set up as four independent verticals within one umbrella institution, the Higher Education Commission of India (HECI).

8. Conclusion

Indian spirituality and meditation are established knowledge tools and expected to be incorporated into the Indian education system in order to strengthen and popularize it. These are unique in the world, so they should be practice and taught in schools from kindergarten. It provides lot of opportunities for students' personality development along with development of fundamental knowledge and skills. The present education system attempts to achieve significant success in the formation of personality, the development of personality, and the contribution of knowledge to all aspects of learning, social well-being and material prosperity and has been emphasized in National Education Policy 2020 (NEP 2020). The current Indian curriculum development system must develop a special form of education in order to establish harmony between materialism and spiritualism with humans to achieve greater perfection.

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Online Teaching and Learning Ecology in Thai Higher Education during the COVID-19 Pandemic

Anucha Somabut and Kulthida Tuamsuk

Abstract

The chapter presents the impact of COVID-19 on Thai higher education the national, and university reactions and policies to cope with the situation. Parallel with the technology disruption, most universities have been attempting to promote online teaching due to the new learning environments and learning style of students, while faculty members are still reluctant. However, the COVID-19 has inevitably changed the ways the faculty members handle their classes. In this chapter, the findings on the components of online teaching and learning ecology (OTLE) in Thai higher education during the COVID-19 is summarized and proposed, covering the following topics: learning and teaching method, technology and learning resources, teacher roles, and student roles and responsibilities. Finally, the key success factors for the development of learning ecology at the higher education level are also covered.

Keywords: online teaching, online learning, learning ecology, higher education, COVID-19, Thailand

1. Introduction

1.1 The context of Thai universities in the digital age

There are 155 universities in Thailand, which are governed by the Ministry of Higher Education, Sciences, Research and Innovation (MHESRI). The universities are categorized according to the structural and administrative systems into 3 groups, namely, 26 autonomous universities, 57 governmental universities, and 72 private universities [1]. Additionally, certain other higher education institutions offer their programs in specialized fields. These institutions are affiliated with governmental organizations such as the Ministry of Public Health, the Ministry of Defense, and the Ministry of Interior. Almost all universities in Thailand run a closed instructional system, while only two universities offer an open or distance system.

The presently emerged disruptive technology has brought great impact on the management of higher education in Thailand. It is caused by several environmental changes both internally and externally: (1) The total change of employment in the government and the private sectors due to the need for digital transformation leads to decreasing job positions and employment rates. Required knowledge as well as skills of applicants to the jobs changed. Meanwhile, universities so far have not been able to prepare manpower who possess the competency required by the job

markets. (2) Under the digital university policy, universities receive impact from disruptive technology, and adjustments become a must by applying technologies in the administration, operation, service, and instruction. (3) The attitudes toward higher education have changed because recruitment of people in the industrial sector no longer emphasizes degree certificates, but working competency. In addition, the population aged 18–22 years or the Gen z have unlimited channels to acquire knowledge and develop themselves in the digital world, and have more chances to build incomes from online businesses or from independent jobs without having to rely on mainline higher education programs [2].

Besides the need for adjustments to face disruptive technology, Thai higher education institutions are also confronted with threats related to reputation building and work outcomes at the international level. The 2020 report of the Office of National Higher Education Science Research and Innovation Policy Council stated that IMD World Competitive Rankings 2020 placed Thai universities at the 49th order from 64 countries, in terms of educational qualities [3]. It can be seen that the ranking of Thailand is among the low group when compared to other countries in Asia, especially when the quality is related to economic competition. This means that Thai universities fail to prepare graduates with the requisite qualifications of the industrial sector. The expected traits of personnel by the job market include skills in creating innovation besides academic knowledge and competence. This fact corresponds to a report by the World Economic Forum, in which the most essential 10 skills for 2025 employment are as follows: (1) analytical thinking and innovation, (2) active learning and learning strategies, (3) complex problem solving, (4) critical thinking and analysis, (5) creativity, originality and initiative, (6) leadership and social influence, (7) technology use, monitoring and control, (8) technology design and programming, (9) resilience, stress tolerance and flexibility, and (10) reasoning, problem-solving, and ideation [4].

2. Adjustments prior to Covid pandemic

The impact of disruptive technology results in a lot of transformation of education and instructional operations in Thai universities. Many universities have turned to rely on education transformation strategies in order to expedite the changes. Khon Kaen University, for instance, sets the strategic educational transformation by enhancing outcome-based curricula instead of the former content-based curricula, and by changing from teaching to learning in the instruction system [5]. At the national level, the MHESRI has come up with the new species of graduates project to respond to the needs for manpower in the industrial sector. This is also an important mechanism for the national economic propulsion, which has been put into action through the transformation of instructional and curricular methods and from the collaboration between the higher-education institutions and the industrial sector, government, the civil society, or community toward the university education for the future. The said sectors joined in prototype program design that emphasizes the transformation of content, elements, and curricular structure. The collaboration also involves instructional management that essentially builds learning experiences through working in the “real situation” [6].

It can be said that before the spread of Covid, Thai higher education already altered the system to the smart education, which means the system that targets preparation of manpower with knowledge and abilities to lead their lives and work that responds to the needs of the present digital market [7]. Glasco [8], in addition, explained that smart education is the genre of education for the new generations of digital natives. Compared to the former instructional methods, smart education

emphasizes interaction, collaboration, and engagement between the teacher and learners and between learners and learners so that sustainable and continuous learning skills will be acquired by the learners. Moreover, outcome-based education has been introduced, in which the learning competency development in learners is the keyword. The instruction emphasizes learning from practices rather than from theories or learning from doing activities to obtain real experiences and from doing the job (work-integrated learning) [9, 10].

McLellan [11] explained that the high-capability Internet technology allows people from every corner of the world to communicate and work together efficiently. Thus, the production sector needs people who are able to use technologies to contact customers or colleagues that are from multiple backgrounds and culture. Manpower building does not, therefore, target only the learning outcomes in terms of knowledge and advanced thinking, but also, the process has to set the competency that incorporates multi-dimensional capabilities. What has been said agrees with the OECD Learning Framework 2030, in which the concept for essential competencies for the future is mentioned. The word competency is not only composed of knowledge and skills, but it also integrates bodies of knowledge, skills, attitudes and values that enable one to move on until one achieves his mission [12].

For the instruction that is based on competency development, the teacher, besides having to answer the important question, “What are the necessary knowledge, skills, attitudes, and values for learners and entrepreneurs?”, must be able to answer the question, “How can instruction be designed that will effectively develop knowledge, skills, attitudes, and values of the learners?” [13]. In this respect, the instructional design that develops learner’s competency and the said qualities necessitates multiple sorts of activities, which, more importantly, learners should be learning in a real situation. The knowledge content must be accurate and up-to-date, and can be applied in real contexts. Development of skills should be performed in the situation similar to the real workplace, not confined within a laboratory or a simulated venue. It is certain that incubation for good attitudes and values toward what learners do or act depends on the social context of real working condition. Therefore, many Thai universities have been enhancing and provoking outcome-based curriculum and encouraging teachers to apply competency-developing techniques such as problem-based learning (PBL), task-based learning, experience-based learning, and work-integrated learning. These methods had not caused any problem during the time before the Covid pandemic, since in general, they were conducted in classrooms and through a practicum at workplaces.

3. Adjustment after Covid pandemic

When the coronavirus (COVID-19) began to spread in Thailand at the beginning of January 2020, most Thai universities were entering the second semester of the academic year. The MHESRI [14] announced that all universities had to carry out instruction online only. However, during that time, each university had not prepared any facilities for online teaching. It became the responsibility of lecturers to acquire tools, equipment, and technologies for their teaching, not to mention that they had to learn how to use the technology on their own. The most controversial issue was online examination administration. Since the time was approaching the end of the semester, many courses stopped class meetings and were at the stage of learning evaluation. Normally, all universities schedule the final exam week, which is based on on-site administration, where identification of students taking the examination is strict according to the university’s regulations. Online examination, on the contrary, has certain constraints. The interesting phenomenon thus

emerged; that is, most lecturers had to change their student assessment and evaluation method, by relying on various authentic assessment approaches that measure the students' learning achievement. Tools have been developed for measuring the learning outcomes under the authentic assessment method according to the Thai Qualification Framework for Higher Education (TQF) [15].

Most of the learning assessment and evaluation tools are the evaluation platforms modified from the surveying technology, for example, Google Form [<https://docs.google.com/forms/u/0/?tgif=d>] or Microsoft Form [<https://www.office.com/launch/forms?auth=1>]. Some rely on the testing system, which is an integrating function in the learning management system (LMS) such as Moodle LMS. These tools can only assess the learning achievement in terms of knowledge content. They still have limitations in assessing learners' skills, which require observation or following up of students' practices. Moreover, there is no regulating or administering system for the examination that prevents copying or cheating in an examination. Universities, therefore, find it necessary to develop a technology or tool for the administration of examinations that does away with cheating and results in efficient examination and assessment.

Since the COVID-19 pandemic is still ongoing, and together with threats from the disruptive technology, universities have to change and become prepared for organizing online instruction. Analyses of data from the Web sites and media of different universities showed that the implementation related to the transformation from an on-site to the online system involves many aspects: (1) Improvement of technological infrastructures that support online teaching and learning; (2) Procurement and development of platforms for online teaching and learning; (3) Teacher training so that they are able to use the technology and tools, and are able to organize online teaching and learning (including design of learning management, development of learning media, management of online classrooms, arranging learning activities, and assessment of learning outcomes). As far as the students are concerned, most universities had to prepare their students for the online system that they join from home. As a result, some universities such as Khon Kaen University offer a computer-lending system, with a sim card for the internet use that allows them to have access to different learning sources. The training was organized for all students to be able to use the learning technology and tools as well as research and production of learning outcomes in different forms. It can be said that the COVID-19 pandemic and the building of online learning platforms for the learners [16] are the stimulants for total education transformation in all universities from classroom instruction to online instruction.

Somabut [17] conducted a survey on the condition of and students' opinions towards online instruction at Khon Kaen University in 2020, during the spread of COVID-19. The sample group that answered the questionnaire administered online comprised 1,339 students and 253 lecturers. The following information was found: The equipment and technologies mostly used by the students were: Windows laptops (46.45%), smartphone operating system (iOS) (43.76%), and android operating system (40.33%). The most wanted media and learning activities included lecture videos (74.91%), live lectures via video conference (66.77%), and discussion forums with teachers (49.51%). In terms of lecturers, it was found that most relied on lecturing by means of video conference (87.65%), followed by assigning students to study for additional content and draw the conclusion from it (76.34%), and video-recording the lecture, assigning students to pre-study the topic and present their work or discuss by means of video conference (45.32%). Most of the media used by lecturers were slides that conclude the content to accompany the lecture (93.25%), handouts produced by the lecturers (76.5%), and retrieved documents from various sources (67.43%). The technology for instruction included

video conference (85.34%), social media (71.55%), and LMS as the learning management systems (67.48%).

It can be said that most of the online instruction does not differ from the former approach, for most lecturers still lecture. The popular platforms are: Zoom, Meet, Microsoft Teams, and WebEx. The learning management systems (LMS) that are mostly relied on are Moodle LMS (which is installed in the server of many universities), Google classroom, Microsoft teams, which are used by most lecturers to make announcements for the course, assign learning projects, and for students to submit their learning missions. Most of the media were slides that accompany lectures and videos describing the content so that students can prepare before class or listen to it after class. Textbooks or sheets have been made as digital documents for ease of uploading to the LMS for the learners. The tools for learning assessment have just been developed. Many universities have procured platforms made in the market and subscribe to these per year or many years. The lecturers can thus use these platforms. Some universities (few) have developed their learning assessment method, including data management for examination and preventive systems against rule-violating actions or cheating. Khon Kaen University has developed an examination administering system along with the learning management system, called: KKU Exam [<https://exam.kku.ac.th/>]. This has been installed in the university's Moodle LMS and has a capacity of at least 8000 people per test.

4. Online teaching and learning ecology (OTLE) for higher education

For the instruction that is principally based on online systems, drawbacks in practices are unavoidable. For instance, distance communication has a limitation in expressing emotion, feeling, and empathy, especially when problems are consulted, explanations that required empathetic and close talks, changing the mindset of learners to stimulate interest and participation. These can be a complicated task of online channels [18]. However, with the capabilities of technologies, opportunities can be gained from online instruction such as rapid communication, multiplicity, and vastness of information, reduction of travel, and time for learning. These opportunities can be used in managing the learning ecology for efficient online education [19].

The higher education paradigm has been changed for some time, especially the concept in curricular design and instruction, which was formerly based on knowledge and understanding of contents more than applying the knowledge in the work or working skills that are separated from knowledge and context of the workplace, towards the design of curriculum that emphasizes competency. The first question formerly asked when designing a course was, "What are the contents to be taught?"; whereas now, the question is, "What competency should be incorporated in the course instruction?" Answering the new question is challenging, as it involves also the competency required by a workplace or the job market. It is the same question for which the lecturer must analyze and classify into at least 3 sub-questions that clarify what is needed for learners to acquire the said competency: (1) What knowledge is necessary? (2) What skills are necessary? Or what should the learner be able to do? (3) What are the required traits learners should have? Nevertheless, whatever is the instruction system, online or onsite, the competency objective must be met [12].

Although the paradigm in curricular design and instruction has changed, the design and promotion of learning still are principally based on the constructivist theory. This theory explains that learning or knowledge is built by an individual from perception of new information or data, which is then interpreted using the

former schema or experience as the base in order to construct the new meaning. Constructivists believe that even though people receive the same information from various channels, interpretation or construction of new knowledge may differ, and for former knowledge, experience of each is different [20, 21]. In short, the learning concept of constructivist is the fact that knowledge and learning is an individual's matter; thus, learning and knowledge construction arise from that individual. Learning in constructivist's perspective is believed to be enhanced and stimulated from the inner process of the learner and the surrounding society that helps the learning process to be complete [21, 22]. Therefore, instruction based on constructivist can be used as the basis for developing knowledge, skills, attitudes, and values of the learner. It emphasizes learning by learner's action or acquisition from experiences in the real context.

During the spread of COVID-19, students have to learn from their dormitory, home, or apartment. They cannot learn in classrooms or on campus as usual. Online learning is a new experience for students. Most have never been exposed to 100% online learning. Some problems may arise among learners such as responsibility, self-regulations, planning of their studies, self-assessment of their learning, and time allocation for their learning mission. Nevertheless, most students are digital natives; therefore, they do not have a problem with the use of technology and learning tools. Besides, university students are the Gen z, who already possess the following behaviors: learning by doing and learning from seeing and listening. Because they grow in parallel to YouTube and moving learning media, they enjoy communications via social media and are able to communicate or work with others whom they do not know by using different technologies [23]. Therefore, online instruction management should take into account the learning behaviors of the learners as the important element.

From the discussed learning management and learning behaviors, curricular design and online instructional management at the higher education level should be based on the following online teaching and learning ecology (OTLE) (Figure 1).

4.1 Learning and teaching method

In order to be in line with the development of learners' competency, where knowledge, skills, and required traits must be developed, the methods and learning

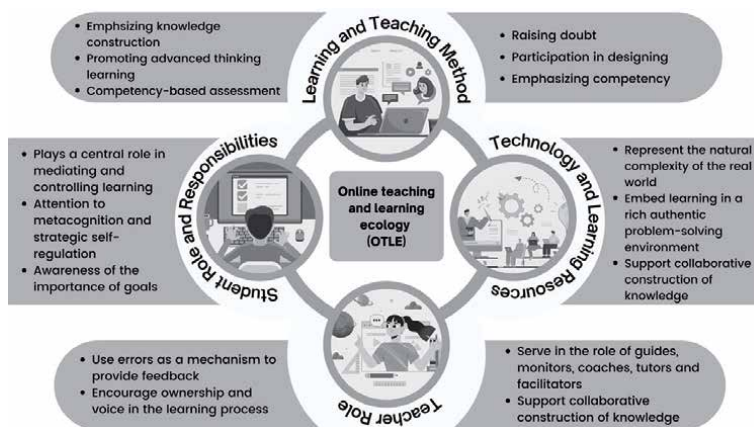


Figure 1. Online teaching and learning ecology (OTLE).

activities must correspond to each competency enhancement. The instructional management approaches may be as follows:

1. Raising doubts of students from giving a problematic situation, a real event, or a problematic context that students have encountered. The story used for raising doubts should be complex and necessitates advanced thinking to solve the problem. More importantly, it must be in a real situation [24].
2. Presenting and informing the goal and learning approaches to students, opening up the chance for students to voice their opinions, negotiate, and set the target and learning activities together.
3. The design of learning activities and assessment must be associated with the stimulation and enhancement of knowledge construction, development of skills, and required traits of learners.
4. Arranging learning activities that emphasize the roles, learning actions, and self-regulation of learners. It needs to be emphasized that knowledge and skill construction is not a reproduction of content or knowledge [25].
5. The learning activities, besides developing knowledge and skills according to the learning objectives, must develop problem-solving skills and advanced thinking as well as profound understanding [26].
6. The learning assessment and evaluation should be designed and made in accordance with the framework of competency, that is, assessing the knowledge, skills, and traits [27, 28].

4.2 Technology and learning resources

Classroom management in the new era, especially during the disease pandemic has resorted to the so-called virtual classroom, which in fact has been developed for some time. Now, it has to be used concretely, that is, in the form of an online virtual classroom. From an online virtual classroom, various functions must be usable as they are in on-site classes. For instance, the teacher and students must be able to carry out learning activities, and the followings must be doable: assignment, grading, exchanging of opinions, presentation, preparation of media, content, or information useful for learning. The content and learning resources should be in agreement with the behaviors, requirements, or the learning context of the present-day learners. Followings are suggestions for technologies and learning resources preparation [29–31].

1. The technology that promotes and facilitates learning should at least include the following modules: managing user's account, assignment, grading and comment, presentation of content and resource, discussion and exchange of opinion (forum), announcement related to instruction, assessment tool and collaboration tools.
2. The platforms used for learning management must facilitate learners and teachers, and enable them to discuss, share experiences, and work together smoothly with no complication.
3. Information source and content should provide both the primary source and the content summarized by the teacher.

4. The content for the students should be in multiple forms, such as video, text audio graphic, or animation, depending on the nature and characteristics of the content, so as to meet the interest and learning behaviors of learners that can vary.
5. Apart from content and learning sources, the teacher may have to select the problem cases that are close to the content in the lesson so as to facilitate learners whose experience in the content may still be little.
6. If it is necessary to produce a video clip for lecturing the content, each clip should not be longer than 20 minutes. If the content is wide, it should be divided into sub-topics.

4.3 Teacher roles

In the new era of classroom management, what teachers should learn and train to use to the expertise level is digital technology application for teaching, which may not be just online lecturing. Teachers need to learn to use LMS that will be developed into a virtual classroom, technology for assigning work, grading and comment, assessment and evaluation based on digital technology. Besides, teachers must take more roles in planning the learning, presenting the plan to learners so that they can make their own plans and adjust the learning with the teacher. Learning plans may involve many approaches. The teacher has to accept each student's context. The roles of teachers at the higher education level in online instruction management should be as follows: [32, 33]

1. Design and plan learning by analyzing the learning competency goals, learning activities, assessment, and media or learning content.
2. Change the role from content expert to a guide, monitor, coach, tutor, and facilitator. These roles will be acted through the medium of digital technology.
3. Survey and search for new instruction management that corresponds to the learner's learning style, especially the strategy that stimulates students to learn freely according to the goal.
4. Use the mistakes or misunderstandings of the students as the opportunity to change their knowledge concept. They may need advice for revising their former understanding.
5. Give positive feedback to the students. This is an important strategy to enhance individual learning for the new age learners, who want to know which points they need to adjust and by what means. Feedback on a person-to-person basis is essential despite its time consuming.
6. Besides being an expert, a coach, or a monitor, the teacher may change the role and becomes a learner who learns with the students so that the teacher is able to see from the students' multiple perspectives while at the same time, not feeling too distant away.
7. The upskilling of the use of digital technology in instructional management is unavoidable and cannot be refused. From the present stage, learning that relies on technology will be more accepted. Re-skills in terms of teaching and

learning tactics are necessary in order to be in line with learners' changing of context and behaviors. Teachers should not be trapped within the complaints of the students' changes, but have to adjust their methods to accommodate those changes instead.

4.4 Student roles and responsibilities

Superficially, learning through online platforms seems to offer freedom. Learners can design their learning and do their own learning activities. They are able to set the activity, time, and place by themselves. Formerly, learning was confined according to what had been planned by the teacher, or students learned from the assignment given by the teacher of each course. This resulted in tension, for students had to hand in the assignment within the limited time frame. Students might not be able to plan their learning with the teacher, but just followed what the teacher planned and assigned. In the new learning era, most roles must be played by the students, from the beginning until the conclusion, so that the outcomes will stay with the students. The teacher only designed the course at the beginning, and prepared learning aids and content as seen necessary. Learning activities, knowledge construction and skill training, will be within the scope of the students' role. Therefore, learning management may involve the students' roles as follows [34–36]:

1. Set the goal and plan the learning and assessment activities with the teacher, by taking into account one's own context that will lead to the achievement of the learning objectives.
2. Besides planning the learning with the whole class, each student must plan individual's learning of each subject, which may differ from others. The plan will lead to self-control and self-monitoring to achieve the goal.
3. The skills and personal traits to be used by each student in order to achieve the learning goal should comprise metacognition, self-analysis, self-regulation, self-reflection, and self-awareness.
4. Digital competency must be developed and is each student's responsibility, both including hard skills and soft skills, as the important tools that enable efficient digital learning. Learning is via digital platforms, and thus the learners need the tools for communicating, developing and creating work outcomes, searching, compiling, and managing media and information sources, as well as knowing the rules and courtesies to be used in the digital world, knowledge related to patents and rights to use the media and content in the digital world.
5. The construction of knowledge and skills of the learner requires analysis, interpretation, and decision making by using the former knowledge and experiences. New information may improve the former beliefs, knowledge, and attitudes.
6. Utilize the opportunity in having the learning freedom and the capacity of digital technology by setting the learning target. Students may have to question themselves what they want to know, what they want to be able to do, what for, and what learning tools are necessary.
7. In order for learning to be complete, the constructed concept, knowledge, and understanding may have to be presented to others such as the teacher

or friends in the class. This is to confirm the understanding, or for exchanging viewpoints. However, after discussion, students do not have to change their understanding if the reason can be more clearly explained than others' comments.

5. Successful conditions of online teaching and learning ecology (OTLE) for higher education

The management of instruction in the new era is under the constraint of area and place. Digital technology is an important factor that brings efficiency in learning management. The preparation and improvement of the technological system may be beyond the responsibility of university lecturers. Thus, university administrators or the department involving with system development and technological infrastructures must revise and plan the digital technology strategies in order to cope with the use by both lecturers and students. These are the successful conditions of virtual university. Followings are the issues to be implemented:

1. Evaluate the status and readiness of the system and digital technology, modernize it, make it highly potential and respond to teaching and learning management and urgent use.
2. Adjust the tool and technological platforms that are categorized as low-code tools to reduce the time to develop new tools and systems, since they are already familiar to people in the organization.
3. Support in terms of necessary materials and equipment for online learning, both for the teachers and students.
4. Develop several forms and frameworks for efficient learning management that enable teachers to choose according to the context of each course.
5. Train both staff and teachers, and teaching supporters who have to work with the digital technology and distance working, of which most may not be familiar with.
6. Closely monitor and evaluate the teaching in order to use the results in adjusting the policy and implementation in time. This does not have to be a long-term or a 1-year policy, but can be done each semester.
7. Prepare the students for online learning by building an understanding of the roles, duties, and practices, including training how to use digital tools for learning.

6. Conclusion

Under the pandemic of COVID-19, universities in Thailand are attempting to adjust themselves to pass the crisis. The action done is to change the channels in teaching to be online so that bodies of knowledge can be transferred and communications made possible with students. Although the implementation may not be very good, learning and adjustments of learning methods are being attempted to pass through the crises. If considering sustainability, the learning methods may be

changed, while the target of competency development remains. Instructional management method that aims toward sustainability should rely on technology for the development of virtual classroom or virtual university. This is similar to the online world that permits teachers and students to perform learning activities, meet, and discuss, with facilities supporting the activities and the work [37]. Such technology is only a facilitating tool, but the heart of learning is the design of learning activities in virtual classroom that corresponds to the goal of the curriculum, learners' learning style, and context. The design of learning activities must also be in accordance with the functions of modern tools and technology. Besides, those directly involved in teaching and learning, that is, teachers and students, must accept the virtual classroom condition in terms of impossible items. There are many things that are the opportunity in virtual instruction, for example, freedom to plan the learning, searching and rapidly accessing the multiple sources of information, and quick and convenient communication. Thus, besides the skill in the use of digital tools for teaching and learning, both the teachers and students must adjust their mindset in perceiving online learning.

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Section 4

New Approaches

The Imperative—and the Challenges—of Introducing a Citizen-Leader Development Program in an Undergraduate Liberal Arts Setting

Michael J. Fratantuono

Abstract

Leadership, especially that associated with collaborative endeavors, is important for addressing emerging, increasingly complex challenges. That development is relevant to liberal arts colleges that are dedicated to educating generalists rather than specialists. The author maintains that such an education helps young people cultivate three sets of individual characteristics: values, capabilities, and aspirations. As well, it provides young people opportunities to become involved in a six-part iterative process intended to promote positive change. In spring of 2019, the author's home institution Dickinson College launched a call for proposals from faculty, staff, and alumni that were consistent with the College's mission and strategic priorities; and would strengthen its competitive position and deepen its relationships with stakeholders. Over a two-year period, the author played a central role in (1) helping shape a proposal originated by two alumni and (2) with several Dickinson community members, translating the proposal to an implementation plan. The efforts fell short; but the author learned lessons about such an endeavor. A well-conceived plan must find the areas of intersection among the interests of key stakeholders. A plan must be of scale that enables organizational practicality and financial feasibility. Successful implementation hinges on the components of good collaborative leadership highlighted above. Explanation and launch of a plan must create excitement among sponsors and potential beneficiaries.

Keywords: Leadership Development, Liberal Arts Education, Relational Leadership, Case Study, Personal Stories, Personal Leadership Characteristics, Systems Insights

1. Introduction

1.1 Leadership: multiple interpretations; increasing relevance

The study of leadership has long been relevant to academic disciplines that span the humanities, the social sciences, and the natural and physical sciences; and all readers of this paper can point to artists, athletes, businesspeople, gurus, military officers, politicians, and others of every stripe who have been or are regarded as leaders. Nevertheless, there is not a simple consensus definition of the concept.

Yes, some experts do provide similar definitions. While Maxwell says, "... leadership is influence—nothing more, nothing less ([1], p. 13)," Cashman ([2], p. 4) says "Leadership is courageous, authentic influence that creates enduring value." Gardner defines leadership as "the process of persuasion or example by which an individual (or leadership team) induces a group to pursue objectives held by the leader or shared by the leader and his or her followers ([3], p.1). Pulitzer Prize winning historian Kearns Goodwin pushes back with a fundamental question: "What is the difference between power, title, and leadership ([4], p. xiv)?"

Meanwhile, over the decades, forces have been at play that have contributed to emerging challenges at local, regional, national, and global levels [5]. Contemporary challenges are complex and characterized by greater degrees of interdependence among humans and between human and non-human ecosystems [6].

Such developments have placed a premium on leadership, especially relational leadership. Relational leaders recognize their credibility is based not on a position they hold within an organization, but instead on the respect they have earned from others, and on their ability to understand the nature of a challenge, to articulate a purpose and a pathway for addressing circumstances, and to motivate others [7]. That brand of leadership is central to collaboration, an important way of addressing the complex realities of the 21st century [8].

1.2 Leadership and a liberal arts education

The author maintains, as do others, that for young adults a liberal arts education provides the strongest foundation for the development of relational leadership. Via a liberal arts education, undergraduates receive exposure to multiple disciplines and are encouraged to employ interdisciplinary thinking as they contemplate issues and learn to communicate ideas. Furthermore, since the typical enrollment at a liberal arts college numbers between several hundred to a few thousand, opportunities exist for all students to engage in groups to achieve a common purpose.

In a wonderful study of leadership written more than 30 years ago, Gardner eloquently makes the case.

"Versatility is built into the species, but the modern world diminishes it drastically through specialization. Young potential leaders would do well to hold on to their birth-right (Italics in the original). ... At the college level, the best preparation is the liberal arts education ([3], p. 164)."

Epstein [9] agrees with that line of thinking. He explains that in the current era, there is a stronger need for generalists than for specialists; nonetheless, there is a tendency in many arenas of human life to cultivate specialists.

Despite such advocacy, most liberal arts colleges do not have structured leadership development programs open to all their students.

2. Leadership concepts

2.1 A framework for conversation

In **Figure 1**, the author presents a framework of leadership concepts. He created the framework during the summer months of 2021 while writing this chapter. The framework draws upon a handful of studies about leadership and the insights garnered by the author over a two-year period. The author believes the framework will be useful to all persons, including students.

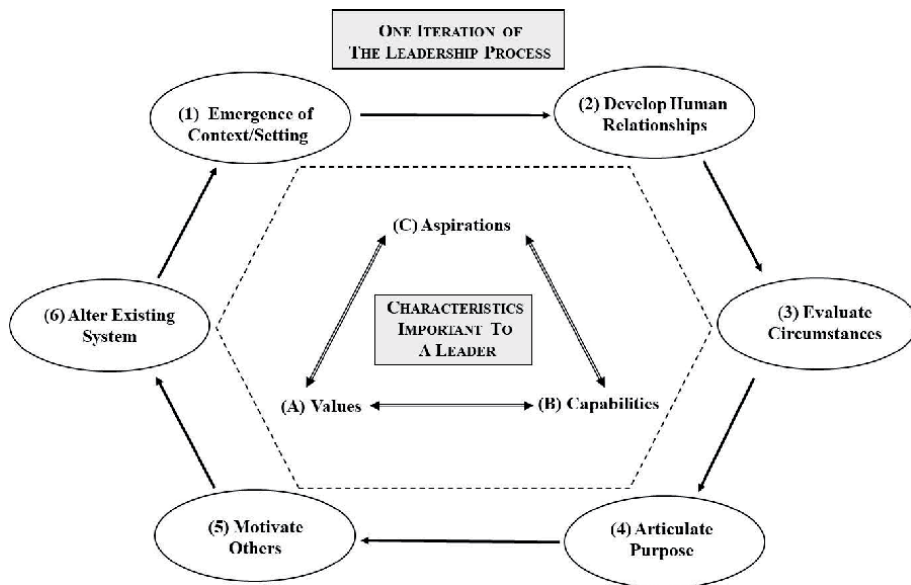


Figure 1.
Characteristics of a leader and the leadership process. Source: Created by author.

The interior portion of the model focuses on three sets of characteristics important to a leader: values, capabilities, and aspirations. The dual headed arrows suggest the reciprocal interdependence among the three sets.

Using systems jargon nicely explained by Meadows [10], each set of characteristics is an intangible stock. At any point in time, each has magnitude that can—at least in theory—be measured. Over time, a stock’s magnitude can rise or decline, due to the influence of flows and feedback loops.

The exterior portion of the model highlights a six-step leadership process for addressing circumstances to create benefits for stakeholders. As suggested by the numbered sequence of steps and the action-words used for labels, the process is dynamic: it involves *flows* of activity. Furthermore, complex challenges may call for repeated iterations of the process. That idea is consistent with Kolb’s “Cycle of Experiential Learning” [11], which calls for students to engage in iterative rounds of (a) experience, (b) reflection, (c) conceptualization, and (d) experimentation.

The dotted boundary in the interior of the model suggests the interdependence among the three stocks and the outer flow of the unfolding process. Existing characteristics of the leader will influence the outcome of a round of steps. In turn, the outcome and the insights garnered provide feedback that influences the magnitude of the leader’s characteristics.

2.2 Linking the framework to the literature

When contemplating the best way to link the leadership framework of **Figure 1** to literature about leadership, the author wrestled with two approaches.

The first approach was to select a representative sample of literature, to briefly summarize each source, and to ask the reader to trace the ideas included in each summary back to the diagram. The author rejected that approach because it placed burdens on the reader and in many instances, sources were relevant to more than one component of the framework.

Instead, the author chose the second approach; that is, to provide an example of one or more sources pertinent to each concept. Although this adds more

precision, it does make the explanation choppy, and leads to some sources being referenced on more than one occasion.

2.3 Characteristics important to a leader

2.3.1 Values

In the eyes of many experts, the best place to start a conversation about leadership is values. Komives, Wagner, and Associates [7] explain the “Social Change Model of Leadership Development”. The first version was created in 1996; yet it has stood the test of time. The model proposes individuals should gain clarity about three personal sets of values: individual values (consciousness of self, congruence, commitment); group values (collaboration, common purpose, and controversy with civility); and community values (citizenship). Once they do so, they are better prepared to engage in “relationship-based leadership.”

Based on decades of research involving surveys, personal narratives, and case studies, Kouzes and Posner [12] identify practices of effective leadership. The first practice, “Model the Way” (pp. 47–70), and the first two commitments embedded in that practice, involve (a) clarifying one’s own values to help affirm shared values and (b) setting an example by living shared values and helping others to do so. They go full circle: in the last practice they described, they call for celebration of values and victories after any initiative.

2.3.2 Capabilities

The author regards capabilities as a broad concept that incorporates others such as skills, abilities, and knowledge. Capabilities can evolve over time.

Maxwell [1] emphasizes that leadership is a collection of skills that can be cultivated over time. In contrast to management, which focuses on maintaining existing systems and processes, leadership is essential for moving the organization in new directions. Others report that across time and countries, two of the four most important attributes followers seek in their leaders are the abilities to be (a) competent and (b) forward looking ([9], pp. 30–31); that the range of skills important to a leader include agility to adapt to ever-changing circumstances [2]; or that because social change is organic and occurs in systems, there is a need for adaptability [3].

In the current era, collaboration is an increasingly important process that is based on the ability to build relationships, and then to effectively navigate interests among groups of people within an organization, across organizations, and even across for-profit, non-profit, and government sectors [13].

2.3.3 Aspirations

Kearns Goodwin [4] describes the lives of Abraham Lincoln, Theodore Roosevelt, Franklin Roosevelt, and Lyndon Johnson. She addresses the coming of age of each young man; difficult life-experiences that forged their resilience of character; and finally, as President, their ability to successfully respond to their respective challenges. At the outset, she poses a range of questions, including “Where does ambition come from?” and “Is leadership possible without a purpose larger than personal ambition (p. xiv)?” To get things started, she quotes Lincoln at the age of 23, when he announced his intention to run for the state legislature (p. 3):

“Every man is said to have his peculiar ambition. ... I have no other so great as that of being truly esteemed of my fellow men, by rendering myself worthy of their esteem. How far I shall succeed in gratifying this ambition is yet to be developed.”

Although Lincoln and the other three presidents depicted are a special case, the author of this chapter maintains that helping undergraduates develop a sense of aspiration—even if aspirations may change over time ([7], pp. 51–52)—is an extremely important outcome, one central to early-stage leadership development.

2.4 The leadership process

2.4.1 Emergence of context and setting

Some analysts, especially in the current era, start discussions about leadership by emphasizing context. Hull, Robertson, and Mortimer [6] are first and foremost concerned about sustainability in this, the Anthropocene era, characterized by interdependence between human and non-human systems and the emergence of “wicked problems”. Efforts to address problems call for system awareness. They are certainly not alone. Stroh [14] for one insists that social entrepreneurs must be adept at understanding system interactions.

2.4.2 Develop human relationships

Developing human relationships is crucial to the leadership process. There are many types of interpersonal interactions that provide opportunities for genuine leadership to be demonstrated, and therefore to build trust and respect in the eyes of others [1]. Cashman [2] emphasizes that good leaders must be good coaches, helping member of the organization grow. Kouzes and Posner [12] indicate that followers want leaders who are honest and inspiring; and in turn, they advise that effective leaders must enable others to act. Kearns Goodwin relates in touching terms the genuine humility and sincere relationships FDR formed with his fellow “polios” when learning to deal with the affliction in Warm Springs Georgia ([4], pp. 171–174).

Chaleff [15] breaks new ground and concentrates on the follower. He asserts that the leader and follower are united by purpose. He elaborates the “courage”—the breadth and depth of character—needed for a person to “assume responsibility”, “serve”, “challenge”, “participate in transformation” and “take moral action” in an organization.

2.4.3 Evaluate circumstances

Adner [16] tells innovators from the business world they must be mindful of the roles of all stakeholders in an ecosystem. Why is that? Other companies in the supply chain may bear “co-innovation risk” if they too must create new products or processes to help launch the initiative. Other companies downstream may face “adaptation risk” if they must adjust products or processes to accommodate the initiative. Thus, the risk and possible success for the innovator is contingent on risks confronting other stakeholders.

2.4.4 Articulate a purpose

MacMillan and Thompson [17] focus on the social entrepreneur who seeks to introduce an innovation dedicated to creating social wealth for multiple stakeholders. That effort calls for both individual ingenuity and the ability to navigate and align networks of stakeholders. Nonetheless, as indicated by the title of their Chapter 1, they stress that the very first step for such an entrepreneur is to “articulate the targeted problem and substantiate the proposed solution.” Worth noting

is that each entrepreneur must achieve their own clarity of purpose and feasibility before making efforts to convince others (pp. 3–4).

2.4.5 Motivate others

Cashman stresses that a leader must be able to demonstrate “Story Mastery”; that is, a leader must be able to draw upon personal stories that genuinely touch others, thereby enabling the leader to inspire others to engage in a common purpose ([2], pp. 45–57). Gallo [18] believes that if done with honesty and skill, storytelling is recognized by people from all arenas as a powerful way of connecting with, inspiring, and unifying groups of people to achieve a common purpose. Additional advice is that leaders must be able to “Inspire a Shared Vision and “Encourage the Heart” [12].

2.4.6 Alter the existing system

System alteration has long been and continues to be a part of discussion about the process of leadership [3, 6, 14]. Meadows [10] provides an excellent introductory overview of concepts. She identifies six system traps (archetypes) and introduces twelve leverage points of increasing impact—but numbered in descending order—that may be used to alter an existing system. The author places the leverage points of Meadows into two groups. Alterations 12 through 6 are undertaken to *modify* an existing system by changing the magnitude of stocks, the volume or direction of flows, or the influence of feedback loops. Alterations 5 through 1 are undertaken to *transform* a system by taking steps to change the rules, membership, or goals of a system, or even to develop new high-level perspectives about the purpose of the system.

3. Case study—the first iteration

As stated in the description of **Figure 1**, the processes of both leadership development and leadership process are iterative in nature. That has been the experience for the author.

3.1 Launch of an initiative

In spring 2019, the author’s home institution, Dickinson College, announced with flair The Revolutionary Challenge (Challenge). It had four objectives. First, to solicit ideas that could, if implemented, contribute to the mission of the College. Second, to create stronger bonds between internal members of the College community and external members including alumni, parents of current students, and so forth. Third, to help the College achieve competitive advantage in the liberal arts sector by introducing a new competency [19]. Fourth, to attract contributions from stakeholders who had not previously been active donors.

Essentially, the Challenge was a call for proposals from combinations of faculty, staff, and alumni. To provide appropriate lead-time and indicate seriousness of intent, the announced deadline for proposal submissions was October 4, 2019.

Proposals were asked to address a series of related questions. While some were process-related, others were more intriguing. (1) What are the central concepts in your proposal? (2) What steps will be associated with implementing the proposal. (3) How does your idea relate to or support the college’s strategic framework? (4) What partnerships, on campus and off campus, do you envision? (5) How

will your idea positively affect the education of Dickinson students? (6) How will your idea positively impact the world beyond Dickinson's campus? (7) If your proposal is selected as a finalist, what resource needs do you anticipate for preparing a detailed proposal?

The start-up process for the Challenge called for formation of a team of judges, The President's Panel on Innovation (Panel). The Panel would consist of members of the board of trustees, administrators, and selected faculty. In mid-spring, the author was nominated by a colleague to serve on the Panel and was subsequently elected to serve. The membership of the Panel was also announced in celebratory fashion.

3.2 A request for assistance

In late August of 2019, the author was invited by the then VP of Development to attend a meeting with two alumni whom he had met a few years prior, Dr. Robert Paull (class of 1962) and Mr. Paul Kovach (class of 1971). The two alumni had maintained a long-time and dedicated relationship with the College and had for some years been strong advocates of a College-wide leadership development program. When the Challenge was announced, they had started to develop a proposal they titled "Leadership for 21st Century Revolutionary Challenges" (Leadership Proposal or Proposal).

During the meeting, the author listened to the preliminary thoughts of the men and appreciated their ideas. Then, as a bit of a surprise, the author was asked by the VP if he might help the alumni fine-tune their Proposal. Since the author had already been named to the Panel, he asked if guidelines could be put in place to prevent conflict of interest. He received an appropriate answer as to how that would be ensured from the VP, who would also serve on the Panel. He therefore agreed and worked the next two months to help the two men further shape and write their Proposal.

3.3 Key features of the leadership proposal

The Leadership Proposal had four important features. First, it attempted to respond to what the two men—the co-originators—perceived as a threat to the College and to the liberal arts philosophy of higher education. They observed that while "the liberal arts were once perceived as providing appropriate guidance and opportunity to develop the knowledge and maturity needed to enter adulthood and the world of work ...", in the current era "... much of the public questions the value of a liberal arts education and perceives it as expensive and lacking strong, focused preparation for employment."

Second, it was conceptually relevant. Dickinson College was founded in 1783 by Dr. Benjamin Rush, a key figure in the American colonies' efforts to win independence. Dickinson's mission statement is informed by his writings.

"Dickinson College was created explicitly for high purposes—to prepare young people, by means of a useful education in the liberal arts and sciences, for engaged lives of citizenship and leadership in the service of society."¹

Although the College has graduated thousands of successful young men and women over its 235-year history, it has never created a commonly agreed framework for helping all students appreciate leadership components and practice leadership methods.

¹ https://www.dickinson.edu/info/20184/academic_offices_and_resources/1953/information_about_dickinson

Third, it was innovative, perhaps to the point of being considered radical. The co-originators asserted that each student's leadership capability was being shaped in all aspects of their four-year liberal arts experience, via engagement in individual and group projects undertaken in academic classes, internships, study abroad experiences, sports teams, the performing arts, student government, student life, public service, etc. The missing piece was a mental model of leadership development that helped students recognize and appreciate commonalities in "interleaved projects" [20] that spanned domains. To shape such a model, faculty, staff, and administrators would need to share ideas about the projects they assigned and supervised in their respective roles as educators, supervisors, mentors, and coaches. The purpose of such gatherings would be to create a common vocabulary, a "linguistic scaffolding". If members of the community had a common vocabulary, then when they assigned projects and provided feedback, they could prompt students to think about how leadership capability would be cultivated during efforts to complete the project.

Fourth, the proposal included a vision statement. If students repeatedly thought about their contributions to projects, then they would be able to write and speak in clear and convincing terms about the commonalities across a liberal arts education, the responsibilities they had fulfilled in generating positive outcomes, and the roles they were prepared to play in future endeavors: That ability in turn would resonate with potential employers, graduate school admissions officers, collaborators, or others.

3.4 The proposal is named a finalist

By the October 4 deadline, 49 proposals had been submitted. A few days later, all were posted on the College web site. Over a period of roughly two weeks, more than 3,500 interested parties reviewed the proposals and shared their likes. Their preferences, as well as the scores assigned by members of the Panel during their first reading, narrowed the field to twenty.

In the final weeks of October, Panel members more carefully reviewed the top twenty proposals. On October 25, members met, talked about those twenty, and then voted to reduce the proposals still under consideration to eight. For a few more hours, the Panel engaged in further detailed conversation and then voted again. Although the author did participate in conversation about various proposals, as agreed in late summer, in neither round did the author vote for the Leadership Proposal. Nevertheless, it was named one of the four finalists selected. Two of the other finalists respectively called for a new academic major and construction of a new facility. The fourth, a Foresight Thinking Proposal, also a bit radical, called for development of skills among students, such as systems analysis and scenario planning.

3.5 The author takes on new responsibilities

Guidelines for the Challenge called for (1) submission of written implementation plans to the Panel by mid-April, and (2) a public pitch to a live audience on May 2, 2020. Near the end of the meeting, members of the Board of Trustees stepped forward to respectively serve as mentors for one of the four finalist proposals. As well, faculty or administrators who were members of the Panel volunteered to serve as facilitators among Panel members, mentors, and one of the four sets of originators.

Of note, of the four finalists selected, the Leadership Proposal was the only one that had been originated by alumni. Therefore, unlike other originators, who were

staff or faculty, the two alumni could not, for logistical reasons, directly engage on a regular basis with members of the internal college community for the purpose of converting their Proposal into an implementation plan (Leadership Plan or Plan). Therefore, given the investment already made, the author agreed to serve both as facilitator and internal coordinator for the Plan. The author understood there was much work ahead.

3.6 From proposal to implementation plan

3.6.1 Efforts to understand context

Over the winter months, the author took some important steps. First, he talked at length with staff in the Division of Student Life who explained the scores of opportunities for student leadership at the College. As well, he heard for the first time about the Social Change Model of Leadership Development developed by Komives, Wagner, and Associates [7]. He also learned the Model was strongly advocated by many members of the Division, and that it was the foundation of a national survey. In fact, every two years, staff administered the survey to the Dickinson student body and forwarded information to a national clearing house, and in return received the national survey results for internal use.

The author also spoke with several other members of the College community and heard impressive and fascinating ideas. For team building, coaches had student-athletes complete community service projects prior to a season; or engage in self-reflection and then share personal stories with teammates. Faculty in the performing arts asserted the importance of teamwork and leadership by students in department endeavors. The Director the College's renowned Center for Global Study and Engagement described opportunities and activities to help students cultivate intercultural competency and life skills.

As the weeks passed, some parties with whom the author spoke admitted they did not know about leadership approaches used by colleagues in other domains of the College, and sometimes, not even by colleagues in their home department. The absence of general awareness within and across domains suggested to the author the existence of silos and an opportunity for the Leadership Plan to add value to the College community.

Furthermore, the author was encouraged, as many of those with whom he spoke agreed they had the time and interest of serving on an Implementation Team (Team) to shape the Implementation Plan. By the start of the semester, twelve members of the community, representing the offices of admissions, development, student life, athletics, and academic disciplines had agreed to serve.

3.6.2 A senior seminar

While contemplating the focus of his spring 2020 senior seminar about Social Innovation and Entrepreneurship, the author decided that conversion of the Leadership Proposal into a Plan would provide an important example of an initiative intended to create social value. Influenced by conversations over the winter months and to gain greater insight about leadership theories, among other readings such as the Strategic Plan of the College and material related to the Challenge, the author included in the syllabus the books by Komives et al. [7] and Kouzes and Posner [12]. As well, the author required students to write reflective essays about their personal values and growth over four years, even as they engaged in their individual commentary about the Plan.

3.6.3 *Managing the team*

During the spring 2020 semester, the Implementation Team met on a bi-weekly basis. The central topic was the content of the Proposal and the notion of leadership as it pertained to their respective domains. The most significant intellectual challenges were (1) translating the emphasis in the Proposal on participation in projects to development of leadership characteristics, and (2) imagining the appropriate organizational structure needed for having community members shape a common vocabulary. As end of the semester neared, the author heard words of frustration among members of the Team: e.g., “What are we trying to accomplish?” The author now recognizes that the question and implied criticism were justified. The Team had spent most of its time, without resolution, on task (1) and much less on task (2).

3.6.4 *Impact of the pandemic*

Due to the outbreak of COVID-19 at the mid-point of the spring 2020 semester, the College closed its doors, students returned home, and faculty pivoted to zoom-delivered online education. Those developments were emotionally and physically draining for all. Among other adjustments, including zoom-based administrative meetings, the author altered requirements for the students in the senior seminar.

As the Board and the Administration scrambled to develop new arrangements for events, including graduation, they wisely decided to extend the due dates for Challenge-related implementation plans until October 2020. From the author’s perspective, the five-month extension on due dates for the Challenge turned out to be a good news/bad news development. It provided much needed time to further shape ideas; but it also implied that efforts would continue under less-than-ideal conditions. That is, COVID continued its grip throughout the summer; but that was not the end of the story. The College did not attempt to reopen for the 2020–2021 academic year.

3.6.5 *Mixed messages*

As the end of the spring semester drew near, the Panel asked internal coordinators to submit drafts of their respective plans. In mid-June, the Panel held individual sessions to provide feedback to each of the four teams. In each session, one Panel member asked attendees high-level questions that focused on both instrumental and intrinsic concerns, with an emphasis on the former. “Does this plan fill a societal need?” “How does this initiative help with recruitment and retention of students?” “What are the current strengths of the College, and does it build on those?” “How might *we* make this plan distinctive relative to those offered by rival colleges?” (Italics in the last question added by author.) The phrasing of the questions reminded the author of the Board’s sense of purpose and ownership of the Challenge.

During the session dedicated to the Leadership Plan, the author took handwritten notes. Some opinions were consistent with the original Proposal; but were then countered by other voices. For example, “The plan should be relevant to all students.” versus “It should target a particular segment of students.”; or “A common language is important.” versus “A common language should not be imposed.”

Others present offered a range of assertions or questions. “The Plan cannot stand alone—it must explicitly focus on diversity and inclusivity, and on ethics.” “The Plan must draw upon the resources of the College’s existing Centers.”² “The Plan must include the opportunity for more senior students to serve as mentors to other

² In addition the Center for Global Study and Engagement, the College also has a Center for Sustainability Education and a Center for Community Engagement.

students or must include opportunities by alumni to mentor current students.” “Will this Plan include a statement about leadership for a particular purpose such as global engagement?” “Will it emphasize experiential learning and reflection?” The follow-on questions and opposing positions were not debated—they remained hanging in the air for the author to take back to the Implementation Team to resolve.

3.6.6 Additional signals

Shortly after the June 15 meeting, the author sensed concerns about the Plan were emerging, when one of the early advocates of the Proposal seemed to lose interest.

To complicate matters, along with the other boundaries included in the call for proposals and the comments from the June 15 meeting, the author heard additional opinions about what the plan should/could not or should/could be. To illustrate one line of conversation, the Plan should not be the central topic in multiple First-Year Seminars offered in autumn of each year. The Plan should reflect degrees of accomplishment over four years but should not call for either a new Major or a new Certificate Program at the College. The Plan could result in a Transcript Notation.

During the summer months, mindful of the mixed messages, the author did his best to reconcile differences as he drafted iterations of the Plan, and shared each draft with the co-originators, mentors, and other members of the Implementation Team.

In the late summer of 2020, during an interview with a representative of the College’s daily on-line forum, the author explained that the Proposal included an invitation to members of the community to meet and talk about projects they assigned or monitored in hope of creating a shared leadership vocabulary. Shortly thereafter, the Provost informed the author some senior faculty had told him they rejected that idea.

Later that summer, matters became worse. Another initially strong supporter asked to meet the author in person and appeared to represent the consensus of the Panel when he suggested the author follow one of two pathways: Cease effort and try again, perhaps in a year; or turn over all material to the Team working on the Foresight Thinking Plan.

The author rejected both recommendations for a few reasons: much effort had been invested; the author was agent of the co-originators; handing over intellectual property created to date was an unfair request; completing the Plan might change minds; and reaching the finish line, even in a dead-last position, was better than quitting, as lessons might be learned.

3.6.7 The plan receives qualified acceptance

In autumn semester 2020, the author remained in contact with co-originators and members of the Team; took input; and continued to shape the final, comprehensive written Plan. Drafts during the autumn included ideas for organizational structure, timelines, and budgets. The final Plan called for a core group from the Implementation Team to create the content for a two-day workshop for “Ambassadors”, who would share ideas about their projects. As well, they would learn to facilitate similar workshops for “Participants”. Participants would share insights with department or office colleagues and begin to use common vocabulary with students. The start-up process would unfold over two years and would call for substantial fees to provide stipends for all parties.

The author received coaching about developing a “pitch” from a member of the consulting firm hired by the College to help manage the Challenge. In his November

2020, zoom-based, six-minute presentation, despite the warning from the Provost, the author summarized the idea of an invitation—not a mandate—to members of the community to shape a common vocabulary. He emphasized the words “encourage”, “empower”, and “enable” to describe each students’ leadership development process.

Nearly forty of the people who tuned-in to the event submitted opinions about the Leadership Plan. Some reactions consisted of a single phrase or sentence, others a lengthy paragraph. Content wise, they covered a broad spectrum, as indicated by excerpts. “I still don’t really understand what this is.” “This seems overly focused on the issue of language.” “This proposal was the most amorphous, the least well defined.” “I think this is really the only one of the options that’s worth doing for a liberal arts college.” “I think this is the clearly best choice.”

In a subsequent formal meeting, the Panel, the Board of Trustees, and College Administrators, including the President, voted to approve the Plan for a new major and the Plan for a new facility. Donors had stepped forward to fund both. Meanwhile, the Leadership Plan and the Foresight Thinking Plan both received qualified approval. Essentially, that meant that both efforts needed more work, and neither could receive full approval and funding without addressing some key issues.

As stated by different parties at the meeting, the Leadership Plan was not conceptually convincing, did not properly establish ownership or organizational structure, and did not fully satisfy the concerns of various stakeholders.

4. Case study—the second iteration

Over the winter months of 2020–2021, the author decided to not abandon effort on the Implementation Plan. He incorporated it into a spring 2021 senior seminar: this time a seminar in Business Strategy. It too would be taught via zoom.

4.1 A senior seminar in business strategy

In keeping with Department expectations, the author planned to navigate a textbook and analyze case studies with students. As well, he designated the Plan as the “consulting project” for the course; that is, the team of seven students would provide advice to the co-originators—and as well to the author who had served as internal coordinator—about how the Plan could be improved.

To create context, the author once again assigned as reading pertinent documents, such as the Strategic Plan of the College, the original Proposal, progress reports, and the written Plan. As well, the author scheduled zoom-based visits with some senior members of the Administration. His rationale was that the team was attempting to offer constructive criticism of an innovation intended to bring value to the College, and he wanted students to hear strategic-level perceptions about current College challenges and opportunities from leaders.

Very early on, the two co-originators had a zoom conversation with the students. The students quickly understood and appreciated the co-originators’ determination, dedication to the College, and fierce advocacy of a liberal arts education. During the conversation, the author said he and the students would provide two deliverables to the co-originators.

4.1.1 Deliverable 1: an assessment of the plan

The first deliverable would be a formal assessment of the Plan according to the seven steps of strategic management explained in the textbook [21] and a corresponding set of strategic recommendations. Unfortunately, for a few reasons,

a formal assessment that navigated all seven steps proved too ambitious. Instead, analysis and conversation remained focused on strategic vision, and yielded three key points.

First, the students surprised the author when they said that as presented, the Proposal and Plan were developed in top-down fashion: they would be imposed on students by others who thought this was “the next best thing.” The author recognized that he owned responsibility for that shortcoming, since he had not recruited any student leaders to serve on the Implementation Plan Team.

Second, informed by class conversations and a segment in the textbook that referenced the work of Kotter [22], students developed an alternative vision statement for the Plan, on grounds it was more student-focused and better adhered to Kotter’s criteria³ than did the statement in the original Proposal. Their statement:

“Self-aware students compellingly describe their experience-informed values, capabilities, and aspirations, and their contributions to collaborative endeavors.”

Third, the students suggested there were two unarticulated tensions in the Plan: (1) between a student’s individual development and growth in group efforts; and (2) between evaluation of performance by others and by one’s self-evaluation. The insight led the students and the author to create early drafts of the two-by-two matrix of **Figure 2**. Each cell in the matrix includes generic questions that an individual student may ask themselves about their progress over time.

The first tension is depicted on the horizontal axis. Individual development and relationship-based engagement are each an objective of the four-year liberal arts experience.

The second tension is depicted on the vertical axis. Evaluation by others and self-evaluation by individuals of activities and outcomes both take place during an undergraduate education. When evaluated by others—the two cells in the lower tier of the matrix—students receive recognition of individual contributions and group success. When evaluated by self—the two cells in the upper tier—students gain awareness of their emotional and social intelligence.

The author fine-tuned the content in summer 2021—more work remains—and numbered the cells from 1 to 4. He speculates the sequence represents increasingly more sophisticated combinations of objectives and evaluations. That is, keeping leadership in mind, the ability of an individual to accurately assess the quality of their engagement in group projects (cell 4) represents the highest level of development.

4.1.2 *An inspirational story*

As a second deliverable, each student would make a recording that explained how their leadership characteristics reflected the power of a liberal education, given characteristics were the byproduct of (1) the common features of projects encountered in all domains of a four-year experience and (2) their awareness of how those common features had contributed to their leadership potential. Those stories would provide examples of “proof of concept” for the Proposal as imagined by the co-originators.

In this case as well, the seniors did not deliver what was promised. In seminar, the author once again encountered unanticipated lines of conversation initiated

³ An effective vision statement is *Graphic* (paints a picture); *Directional* (forward looking); *Focused* (specific enough to provide guidance); *Flexible* (permits adjustment to developments); *Feasible* (within the realm of what can be achieved); *Desirable* (makes sense); and is *Easy to Communicate* (can be explained and is amenable to a slogan).

This list is the summary of Table 2.2, pg. 18, GPT.

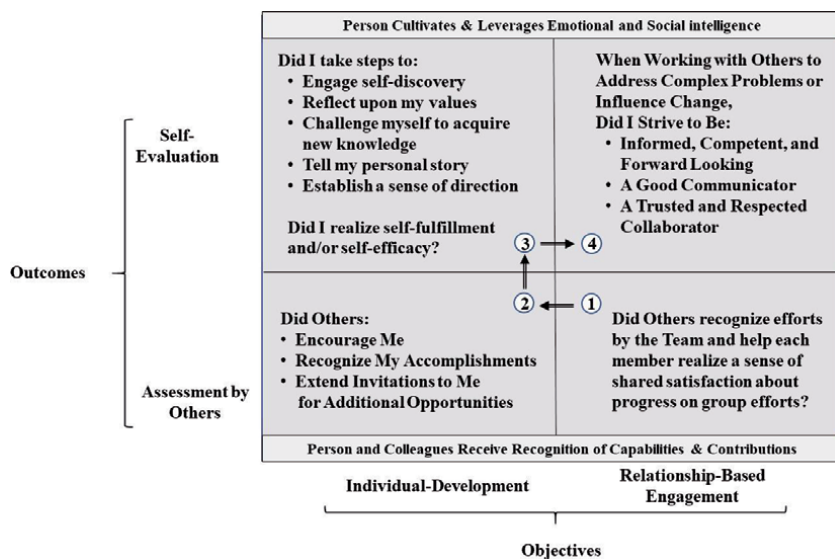


Figure 2. Objectives and outcomes during the process of leadership development. Source: Created by undergraduate students and author.

by the students. Over four years, a student certainly could have a powerful experience; but the various support systems and safe spaces provided by the College were required to enable the student to properly process the experience, and thus be able to share at a more general level the outcomes and implications of the experience. Any story shared had to first and foremost benefit the student. A student should not be expected to tell a story for the purpose of promoting a proposal or a plan: that could be viewed as exploitative.

The author kept those concerns in mind and recognized that trust by students in him, in one another, and in the process was essential. To avoid feeling exploited, students had to have final say as to whether or with whom their stories would be shared.

To provide a rationale for a story, the author and the students turned to Cashman [2], especially his chapter about the need for a leader to be able to tell a personal story to inspire others. To help appreciate the power of a story, the author and students watched expert Simmons [23] make her TED talk case.

Over a two-week period near the end of the semester, students first created outlines and then drafts of their stories. During class time, groups of two or three students went to breakout rooms and shared stories with one another. In another class session, each student delivered a non-recorded dry-run story to the rest of the group and took supportive comments. Finally, each student created a five-minute story on their cell phone from the comfort of their home and submitted it on the final exam date.

The author realized that despite the course being taught via zoom, students had in fact decided that in the senior seminar, the mutual support they received from each other and the organizational culture of the seminar enabled them to talk about some transformative episodes. The author was impressed by all and “blown away” by a few. He thanked each student for giving him the gift of sharing their respective stories.

The author now wonders if stories, informed by the content of **Figures 1 and 2** might be the appropriate vehicle for providing evidence of the students’ growth as leaders.

4.2 Conversations about key stakeholder groups

In the spring of 2021, the author had two one-on-one conversations with administrators who reminded him that an innovation had to connect with key stakeholder groups.

The VP of Admissions explained that even if a program created genuine value for students, if outcomes were nuanced and did not result in clearly demonstrable outcomes, the program would not resonate with students and families who were engaged in the college search process.

The new VP of Advancement gifted the author a copy of Langley [24] and explained the current realities. Higher education is a participant in a highly competitive marketplace. In the higher education sector, 80% of the contributions come from 1% of the givers. Today, the primary rationale of donors is no longer giving “to” a college based on loyalty; instead, it is giving “through a portal of purpose” that permits the donor to be a steward of an initiative that will deliver impactful outcomes.

4.3 The leadership plan and the foresight thinking plan revisited

After both the Leadership Plan and the Foresight Thinking Plan received qualified approval, the author once again heard the plans should be merged. This time, the message came from the Office of Advancement. Therefore, near the end of the spring 2021, the author asked to meet the co-origiators of the Foresight Thinking Plan.

The author’s counterparts explained that their Plan emphasized systems thinking, environmental scanning, system mapping, and scenario planning. They also asked the author if he thought that leadership was on an equal footing with those capabilities. The tone of the question implied that they did not. The author said Yes and quickly became defensive and antagonistic. Simply speaking, the conversation was not fruitful.

5. Reflections

The opportunity to submit this Chapter for consideration helped provide focus for the author during the summer of 2021, as he reflected on events of the past two years. He engaged in further study about leadership concepts and gained the clarity needed to create and explain **Figure 1**. As well, he managed to strengthen and fine-tune the underpinnings of **Figure 2**, an outcome of the joint work completed with students in the spring 2021 semester.

5.1 Conceptual and operational challenges

While the Leadership Proposal was *about leadership*, translating it to a Plan *called for leadership* within the context of a collaborative endeavor. That made things tricky for a few reasons.

First, as previously described in more detail, the Proposal envisioned a process whereby members of the community developed a common vocabulary about students’ engagement in projects as the key to leadership development; but it did not identify the characteristics important to a leader. Furthermore, despite a good foundation of interdisciplinary knowledge and engagement in many initiatives, the author did not have deep knowledge about leadership concepts (**Figure 1**, Characteristic B): that served as a limiting condition. Taken together, those two

factors contributed to the struggle on the part of the Implementation Team to move much beyond the Social Change Model of Leadership Development and Kolb's Cycle of Experiential Learning as the central theoretical components of the Implementation Plan. That was one of the reasons the written Plan failed to impress the Panel, Board of Trustees, or Administration: they regarded those models dated and not innovative.

Second, on the positive side of the ledger, the author did organize an Implementation Plan Team of twelve people who represented important domains of the College; did facilitate conversations that encouraged participants to describe their interests and ideas; and did incorporate in the Plan those ideas and interests that represented the greatest square-footage of common ground. On the negative side of the ledger, the author did not do a good job of sharing responsibilities for the Plan or for writing drafts of sections of the Plan: in short, the author tried to maintain too much control. That was a shortcoming of relational leadership that resulted in an inadequate sense of ownership among other team members, and less than satisfactory communication with the co-originators. The processes depicted in **Figure 1** inform those self-criticisms.

Third, as previously described, while the author did submit a start-up budget and set of timelines to the Panel by the required due date in November of 2020, most of the funding was dedicated to workshops to form the common vocabulary over a period of two years. That was a long lead time before students would become the target stakeholder group.

Fourth, in the presentation to the public in November of 2020, the author had not yet absorbed the lesson of including in the pitch an inspirational story [2, 18, 21] intended to provide a unifying image to the Panel, Administration, Board members, and potential donors. When the next opportunity for trying to win approval arises, either the author or another representative must develop a story that excites constituents about the overarching purpose and envisioned outcomes.

5.2 Finding compromise while preserving identity

Returning to the end of semester conversation with the internal coordinators for the Foresight Thinking Plan, each side had, after much work, received qualified endorsement. Each side in the conversation was possessive of its respective plans. The tone and outcome of the conversation suggested the potential for the system trap of Accidental Adversaries: "While each group had been conceived as part of an overall system whose actions would benefit all, each group had come to focus on its individual responsibilities and success ([14], p. 20)." To avoid the trap, the first step would be to "Clarify or remind both groups how they can benefit from partnering with each other (p.153)".

The author agrees that foresight thinking is essential to leadership—extensive surveys have demonstrated that to be the case ([7], p. 30–31). In recent years those capabilities have and continue to become an increasingly important part of Individual Characteristic B, and are directly pertinent to Process Steps 1, 3, and 6 of **Figure 1**. The author regards foresight thinking as only one of three leadership characteristics, and therefore does not equate foresight thinking with leadership, since the latter also incorporates values and aspirations. As to whether values are on the same footing as capabilities, the author's answer is an emphatic Yes. Indeed, many scholars—e.g., [2, 3, 7, 12]—assert that values represent the first and most important building block of effective leadership.

Additionally, consistent with the vision of the co-originators of the Leadership Proposal, the author maintains that leadership occurs in all domains of the four-year experience and often involves the ability to influence others—sometimes even

in short-run time horizons—by virtue of the leader’s established human relationships and capacity to motivate and even inspire others.

The author understands that he must make another effort to talk with the internal coordinators of the Foresight Thinking Plan, and recently offered an apology for his contribution to an unsuccessful spring conversation. The author speculates that unless both sets of parties demonstrate some form of effort toward collaboration, both plans may once again encounter barriers, including concerns about feasibility, questions about funding, and non-acceptance of concepts by the broad-based community.

The author is aware that collaboration can lead to two possible outcomes. One is the opinion conveyed by the College Office of Advancement: the Leadership Plan and the Foresight Thinking Plan should be merged and brought under one structure in the organization of the College. The author finds that potentially troubling, since the central premise of the Leadership Proposal and Plan are directly linked to the stated mission of Dickinson College. The author favors an alternative: finding a way to make the two plans complementary to improve the relationship among the parts of a larger system ([14], p. 86) while preserving the identity of each part.

5.3 The need to be mindful of multiple goals

As previously noted, the co-originators of the Leadership Proposal had clarity about challenges to the College and even to the liberal arts model of education. While working to shape the Plan, however, especially in the six months from November 2019 to mid-summer 2020, the author and Implementation Team primarily gave thought to translating those broad ideas to more refined leadership concepts, rather than to issues of operational feasibility.

Following the November judgment of qualified acceptance, the author revisited the multiple goals of the Challenge: to create intrinsic value for students; to shape identifiable outcomes; to help the College be more distinctive among peers; to attract new students to the College; and to attract new sources of funds from donors.

Stroh helps provide clarity. He describes a system archetype, “Competing Goals”. He provides advice for the case when there are only two competing goals: “look for a higher goal that encompasses the competing ones”; “if achievement of both goals is mutually exclusive, commit to one”; or “if not, determine different corrective actions that lead to the accomplishment of both goals ([14], p.155).”

For the Challenge, goals were not inherently exclusive; nevertheless, the author believes more thought must be given to simultaneously achieving all.

6. Looking ahead

As originally envisioned, the Leadership Proposal was difficult to implement because it called for members of the Dickinson community to contribute to a commonly agreed leadership vocabulary regarding projects that existed in various domains of the College. As explained in the narrative, some vocal members of the faculty rejected that idea before hearing any details. That represented a formidable sociopolitical barrier that calls for special efforts for finding common ground ([17], pp. 57–75).

In fairness to all, however, such an undertaking would have required a new organizational structure via which ideas would be shared; and more important, a new way of thinking among members at the College. Each of those steps called for system alteration via utilization of leverage points [10]. The author would go so far as to say that introducing new ways of thinking represents system transformation.

Based on two-years of experience summarized in the case study, the conceptual frameworks developed for this chapter, and leadership relevant systems insights, the author's position is that putting in place a leadership development program that builds on the strengths of a liberal arts experience and is open to all students cannot be launched via the encompassing top-down fashion included in the original Proposal.

Instead, next efforts must draw upon systems-thinking concepts [10, 14] to avoid traps and find opportunities for collaboration. Ironically, given the original rationale of the Leadership Proposal, such efforts require a hardnosed and pragmatic approach to project management [17]. As well the next iteration of the Plan must be operationally feasible and financially affordable.

From the outset, the next effort to launch a Plan must be smaller in scale and more bottom-up in nature. It must seek contributions from students, who should be encouraged, empowered, and enabled to play a role as project managers or participants. It must be fun for students and must result in outcomes that are demonstrable, worthwhile, and that elicit emotional reactions among observers. Efforts must result in a platform that can be sustained over time, so that ever more participants are attracted to outcomes of the Leadership Plan. Finally, it must attempt to address the multiple goals of the Challenge and the vision of co-originators Paull and Kovach.

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Influence of Initial Study Activities on Final Academic Performance – An Analysis of Higher Education Students

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Abstract

The academic performance of the first weeks of the study period, determine or project the final academic performance; This phenomenon, mainly, is since the student seeks and finds stimulus in her results, even if they are very short-term. This article proposes a way of modeling the evolution of academic performance intraperiod, to guide the accompanying actions during the process and not after it. The degree cohort of the distance study system, April–August 2019 (6,675 students), from the Universidad Técnica Particular de Loja, was followed up, through probability models, on the four moments of performance measurement academic and it was found that, at the first moment of measurement, students who accumulated a result equal to or greater than 75% of the possible grade, had a high probability of passing the course.

Keywords: Academic performance, dropout, open and distance learning, learning analytics

1. Introduction

College students, permanently self-assess their intra-period academic progress, at those various moments, make intuitive predictions [1] regarding their academic performance at the end of the term. Using simple general rules [2], they outline their decisions regarding their academic future. In this research, we simulate the behavior of academic performance (AP) at the end of the period, for this, we take the information of the different moments of measurement that we have in the semester, mainly of the first moment. The quantitative and qualitative information, of the very short term, offers the possibility for teachers and the university to take strategic actions to change the course of students with unfavorable prognosis or to consolidate the course of those who are projected to pass the subjects.

The research was conducted with secondary information from the students enrolled in the distance learning system at the Universidad Técnica Particular de

Loja (UTPL) in Ecuador. Having information from students who live and experience different personal and geographic realities throughout Ecuador ensures the reliability and robustness of the forecast.

The modeling of the behavior was carried out in two moments; in the first, a theoretical model was found in which the movements of academic performance were hypothetically discovered and described; and, in the second moment, empirical evidence was generated with econometric logit probability models. The modeling of the behavior was carried out in two moments; in the first, a theoretical model was found in which the movements of academic performance were hypothetically discovered and described; and, in the second moment, empirical evidence was generated with econometric logit probability models. In the two forms of evidence, it was found that, the first weeks of the academic period are the determinants and have sufficient information to explain the future movements of academic performance; if the student is diligent in the first weeks of study and have an academic performance equal to or higher than 75% of the grade has high probability of passing the subject.

1.1 Academic performance

There are many studies that address AP in higher education, universities need to understand the possible reasons for the academic dropout of their students and thus have elements that facilitate institutional academic management. Most studies on the subject focus on determining the factors that influence AP, [3] point out that many studies that address AP posit that a student's academic performance is directly related to a set of inputs available to the student, such as: context, cognitive competencies and psychological characteristics.

In the study developed by [4] it is indicated that, according to the literature review, it has been shown that students enrolled in higher education studies drop out and do not complete the courses in which they had enrolled for several different reasons that can be very diverse and range from intelligence to personality and absenteeism. Duque et al. [5] pointed out that personal results are the best determinant of university students' dropout and [6] introduced in the analysis of the AP of higher education students, that absenteeism (absence of the student in academic spaces or academic activities) leads to low AP.

Holgado et al. [7] indicated in their study on AP the existence of the relationship between self-concept and AP, pointing out that there are many investigations that have found a significant relationship between these two variables. Eccles, (2005), cited by [8], defines self-concept as "the perception of an individual based on self-knowledge or experience and is formed through interaction with the environment and behavioral attributes". For students to achieve a good self-concept, it is important that they participate in early academic activities in order to achieve their first academic results. In this sense, the present study aims to analyze the influence of the initial academic activities or the first weeks of study on the students' final AP.

1.2 Initial academic activities and academic performance

Incoming students, in the initial weeks of the semester or year, depending on the first academic results, make "intuitive predictions" [1] of the probabilities they have of passing the subjects, at the end of the semester or course [9, 10]. In these first weeks, mainly, the newly arrived student experiences a reaction that is fundamental for his academic future [11], he, instinctively, makes an assessment of his own possibilities and limitations, for that exercise, they have as main and perhaps only factors the academic self-concept [12, 13] and their very short-term results or

academic self-efficacy [14]. The measurement or assessment exercise, positive or negative, that the student performs, in the dim light of the results of the first weeks, has direct implications on attitude, being able to mark the performance of the end of the academic period and its integration [15, 16], at least in the short term.

Instinctive reactions are characteristic of human beings, in this case, the student, due to the results of the first weeks, which perhaps are not as expected, may experience, even if only temporarily, lack of confidence and lose control over their academic future [12], the stress generated by not achieving the results in the short term determines the study dynamics of the entire semester or year, influencing AP and the decision to stay or drop out of the career [11, 17].

People, feel aversion to losses [2]. In this case, for the student, failing a subject is a very painful event that can negatively mark the course of his or her university career [17]. If the student can perform well in all stages of the formative process, mainly in the critical first weeks, they will achieve their short-term goals [17] and academic performance will be the lighthouse that allows them to stay the course and have a positive attitude towards academic achievement [18]. The university must offer the best learning experience, so that the student is properly integrated. Johnstone et al. [19, 20] talk about the importance of students having a positive experience that encourages them to continue, especially, in the complex first weeks at the beginning of the semester or year, time in which students at high risk of academic underachievement can be identified and provided, proactively, with support to improve academic performance at the end of the semester [21].

1.3 Academic performance model

Simulating the movements that academic performance (AP) has throughout the semester (t_i) or year of study, is the main objective of the proposed model presented in **Figure 1**. Hypothetically, the case is established of a University that has four moments ($i = 0, 1, 2, 3, 4$) in which it measures academic performance (AP_i), the moments as time are evenly divided and it is expected that in each of them the student reaches the qualitative and quantitative objectives proposed in the academic planning.

The scenarios that were constructed made it possible to evidence the ideal behavior that students should have in order to achieve an AP level between the

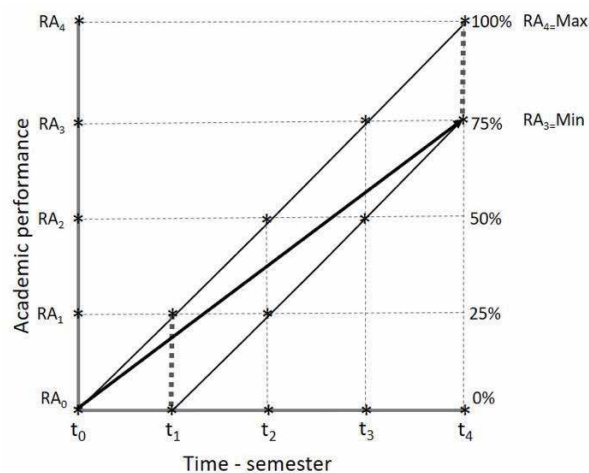


Figure 1.
Behavior of academic performance in a semester.

minimum to promote (AP_3) and the maximum established (AP_4). In the first case, the students who achieve the maximum of the performance ($\overline{AP_0t_0}$)(AP_4t_4), are grouped together, they in each measurement have 100% of the grade; the second case, are the students who did not perform academic activity or had zero in the first measurement, ($\overline{AP_0t_0}$)(AP_4t_4), at the end of the semester they can only aspire to 75% grade, minimum established - hypothetically - to pass the subject. In the two established segments, the grades of the students who are likely to pass should be moved. If we assume that most of the students have a behavior that, from the beginning of the semester, is projected to reach at least the minimum AP that allows them to pass the course, the third scenario was constructed with the segment ($\overline{AP_0t_0}$)(AP_4t_4). The projection line, at time t_1 , constructs point B, which is the minimum AP for the student to be likely to pass the subject. Students who in the first measurement (t_1) meet the condition $AP > B$ will have the probability of passing the course. Point B, by similarity of triangles - "Thales' Theorem" - is proportionally equal to the minimum established for passing the subject AP_3 , namely, B is equal to 75% of the grade established in t_1 .

Based on what has been described, it was established as the main hypothesis that: The student who in the first measurement t_1 of the AP_1 have results that are equal to or higher than 75% of the grade have the highest probability of passing the subject, this because projects positively and is confident that will have the academic achievements raised in the planning of the subject.

$$\text{Model 1 : } Y_i = \delta_0 + \delta_1 X_i + \mu_1 \quad (1)$$

$$\text{Model 2 : } \ln \left(\frac{P_A}{P_R} \right) = \delta_0 + \delta_1 X_i + \mu_1 \quad (2)$$

$$\text{Model 3 : } \ln \left(\frac{P_A}{P_R} \right) = \delta_0 + \delta_1 D_1 + \mu_1 \quad (3)$$

Where:

- Y_i is the academic performance at the end of the semester or the cumulative AP at time t_4 .
- $\frac{P_A}{P_R}$ is the likelihood ratio of a student passing the subject compared to failing the subject.
- X_i is grade obtained AP_1 at time t_1 .
- Alternatively, X_i will be transformed into D_1 which sets the dichotomy between grades at t_1 that were greater than or equal to 75% of those that are not.

2. Methodology

The purpose of this study was to examine if the academic performance of the first weeks is associated with the academic performance at the end of the academic period (16 weeks) in university students of the distance learning system of the Universidad Técnica Particular de Loja (UTPL) - a leading institution in distance learning in Ecuador. Academic performance is measured by the grades obtained by the students on a scale of zero to forty, with the possibility of accumulating ten

points at each moment of measurement. The final AP was calculated as the sum of the four AP measurement moments. The results were taken by subject or course enrolled by the student.

Participants were ($n = 6675$) students from the April–August 2019 cohort, enrolled in 19 degrees or majors and 288 subjects or courses. With these data, 31928 enrollments per subject were generated, with a total of 127712 (31928×4) evaluation moments. The student population presented a heterogeneous profile in terms of personal, academic, socio-family, pedagogical and perhaps psychological characteristics. The information was taken from the academic records of each student, with the authorization of the Vice Rectorate of Open Modality of the University analyzed. At no time during the research were the personal data of the students used, guaranteeing the confidentiality of the participants.

To rule out systematic bias, comparative statistics of sample and cohort are presented. No systematic differences were found between sample and cohort. The average for the sample ($n = 380$ with 95% confidence) of students, taken at random, was 6.69 out of ten points in each event in which academic performance is measured, while for the population it was 6.59/10. In the sample the number of positive cases of passing the subject was 44.21%, while in the population it was 43.88%.

The analysis was carried out at two levels. The first was descriptive, using graphical tools and measures of central tendency; the second was inferential, calculating correlations, simple regression models and logit probability models.

3. Results

The results indicate that there is a direct and positive relationship between the grades of the first weeks of activity and the final result or AP of the subject. Likewise, it was established that, from 8 points out of a possible ten, in the first measurement of the academic activity, students pass more than those who fail. **Figure 2** shows the behavior of academic performance at the end of the semester, depending on the AP of the first weeks. As an example of the reading of the results, we point out the following cases:

- 20% of the students who failed a subject had zero AP at time t_1 . In contrast, in this same scenario, only eight cases (0%) passed the subject at the end of the semester.
- 47% of the students who passed a subject had ten or the maximum possible AP at time t_1 . Six percent of those who had the maximum grade in the first weeks at the end of the semester failed the subject.
- 92% of the students who passed a subject had between eight and ten points at time t_1 and 55% of those who had a grade equal to or lower than five points at time t_1 failed the subject.

Figure 2 shows the positive relationship between the first moment of AP_{t_1} and AP_{t_4} , the higher the grade in t_1 the more likely it is that the subject will be passed, especially when the first moment has more than eight points. Between the AP measured at t_1 and the AP measured at t_4 there is a correlation of 86%.

The relationship between the moments of academic performance over time, initially measured with a simple regression, Model 1: $Y_i = \delta_0 + \delta_1 X_i + \mu_1$ (Ec. (1)) the results are positive and conform to the initial theoretical approach.

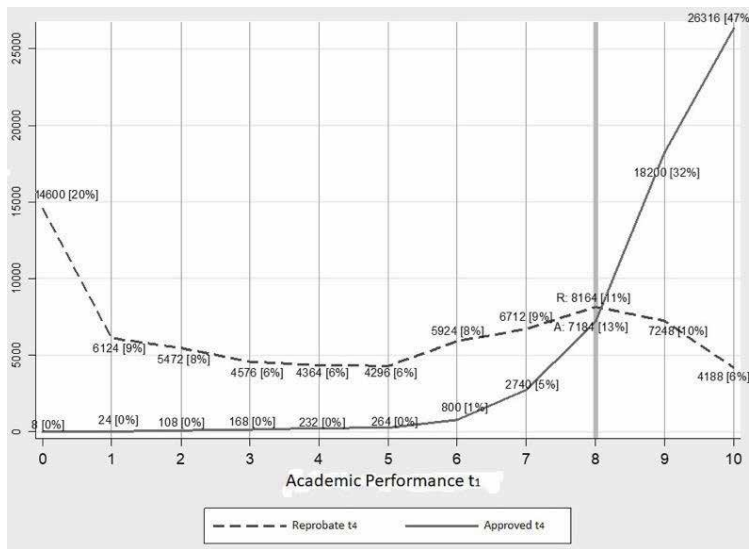


Figure 2. Number of students according to promotion at the end of semester t4 compared to the results in the first weeks of study.

$Y_i =$	$4.24+$	$2.73X_i+$	μ_1
s.e	0.01	0.07	
p	0.00	0.00	
R2	74%		

The 74% of the changes that could occur in the academic performance at the end of the semester (AP_{t4}) are explained by the academic performance at the first moment of the semester evaluation (AP_{t1}). The AP_{t4} that does not depend on AP_{t1} is 4.24 points, a very low value in relation to the 40 points that can be accumulated; while, the AP_{t4} that depends on AP_{t1} has a positive effect and increases to an average of 2.73 for each additional point of AP_{t1} . The estimated results passed all the tests of correct specification and therefore, the prediction is valid and confirms the proposed relationship.

Model 2: $\ln\left(\frac{P_A}{P_R}\right) = \delta_0 + \delta_1 X_i + \mu_1$ (Ec. (2)), shows the relationship between the natural logarithm of the probability that AP_{t4} is above the minimum necessary (75%) to pass the course versus not passing, as a function of AP_{t1} or X_i . The results of the five-iteration logit model suggest a relationship with positive effects (0.87) and a null probability (-6.99) of AP_{t4} for the cases in which AP_{t1} is null.

The marginal effect (0.15), determines that unit changes in AP_{t1} have a positive effect equivalent to 15% on the probability that AP_{t4} is greater than or equal to the 75% grade required to pass. Alternatively, we can say that as AP_{t1} increases by one point, the probability of having $AP_{t4} = 1$ increases by 15%. This model predicts very well, according to the ROC curve, 89% of the cases were well classified.

$\ln\left(\frac{P_A}{P_R}\right) =$	-6.99	$+0.87X_i$	μ_2
dy/dx		0.15	
s.e	0.10	0.01	

$\ln\left(\frac{P_A}{P_R}\right) =$	- 6.99	+ 0.87X _i	μ_2
P	0.00	0.00	
Pseudo R2	0.43	Curve ROC	0.89

Finally, Model 3: $\ln\left(\frac{P_A}{P_R}\right) = \delta_0 + \delta_1 D_1 + \mu_3$ (Ec. (3)), raises the possibility of the relationship between the natural logarithm of the probability ratio (PR) that AP_{t4} is above the minimum necessary (75%) to pass the subject, versus that it is not, this as a function of a dichotomous variable D_1 that is equal to one when AP_{t1} > 75% and zero when AP_{t1} < 75%. The results of model 3, are conclusive to test the hypothesis proposed in the theoretical model “The student who in the first measurement t_1 of the AP_{t1} have results that are equal to or higher than 75% of the grade have the highest probability of passing the subject”.

$\ln\left(\frac{P_A}{P_R}\right) =$	- 2.48	+ 3.45D ₁	μ_3
dy/dx		0.65	
s.e	0.03	0.04	
P	0.00	0.00	
Pseudo R2	0.35	Curve ROC	0.82

The estimation of the -logit- model, with four iterations, confirms the positive effects of models one and two. The logarithm of the likelihood ratio is positive (3.45) when $D_1=1$, otherwise the probability is zero. Therefore, a student who has less than 75% of the grade, in the first weeks of study (AP_{t1}), is unlikely to pass the subject or have an AP_{t4} > 75%. The marginal effect is 65% for unit changes in AP_{t1}. The ROC curve (0.82) certifies the adequate classification of the predictions of this model.

4. Conclusions

The importance of acting, prior to enrollment and during the crucial first weeks of study [22], is ratified by the empirical evidence found. Students who are diligent in the first weeks of study of the academic period and who have an AP equal to or higher than 75% of the grade, have the best chances of passing the semester in that subject. This result is not a coincidence, nor a simple modeling, it is a phenomenon related to human behavior, because students base their behavior on the evidence that they are generating of their learning process, with this the academic self-concept is formed [13] that will surely influence the decision to remain or abandon the studies in that career and even in the university.

In light of the evidence, the models found and validated can be used as a tool to proactively identify - in the first weeks - students at high risk of low AP and with them work intervention strategies [9, 23], which allow changing the course of the final behavior of AP. If the course of AP is not modified in the first weeks, the risk is to have an unsatisfactory final AP, the latter, will be the cause for the student to make the decision to drop out early and that in the vast majority of cases becomes desertion. Students with low intrasemester or short-term AP are less willing to continue their studies, their decision is based on a simple rule: the quantitative

academic results are not very satisfactory and do not generate a favorable expectation in the long term.

In this research, the behavior of AP in the very short term is collected, and what might happen in the short term - at the end of the semester - is analyzed, but grades are strongly correlated and the short term affects the long term [24]. The initial results, in time have direct consequences on the terminal efficiency rates and personally are determinants of post-education, other higher studies and work.

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Conflict of interest

The authors declare no conflict of interest.

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Approach to Writing from Readers' Perspectives: Incorporating Self-Evaluation, Peer Feedback, and Self-Reflection into Academic Writing

Masumi Ono

Abstract

In teaching academic writing, it is important that teachers encourage students to consider the expectations of readers, which vary depending on the genre and context of writing. Peer feedback, a collaborative learning method, provides students with opportunities to read peers' writing and give and receive feedback. This study investigated the perceptions of first-year university students' writing and revising academic essays through self-evaluation, peer feedback, and self-reflection. A total of 122 students wrote and evaluated the first drafts of their essays, read their peers' essays to evaluate good and problematic areas, revised the drafts, and reflected on the peer feedback. The results indicated that self-evaluation enhanced students' attention to readers' expectations and that peer feedback was considered useful by the majority of them. While their essay scores and views on peer feedback did not correlate, the high-graded essay group appreciated peers' comments on the essay organization. In contrast, the medium-graded group valued comments on the content, whereas the low-graded group viewed citation-related comments as useful. The results suggest that clear, specific, and critical feedback comments were received positively. Self-evaluation and peer feedback enhance students' collaborative learning, analytical skills, and awareness of readers and their own writing.

Keywords: second language writing, collaborative learning, essay writing, revision, peer feedback, self-evaluation, reader awareness

1. Introduction

Academic writing plays a vital role in higher education worldwide. Many university programs and courses often require students to write a wide variety of coursework and assignments. Typically, university students write assignments, and only their teachers read and assess them. However, written genres such as graduation theses and research articles have different readers whose expectations vary. In any genre, writers are expected to write a target text for readers (e.g., [1–3]). More precisely, writers need to consider readers' expectations about the text they compose and adjust their writing appropriately to meet them.

In English as a second language (ESL) and foreign (EFL) contexts, first-year university students are taught academic writing and its rules in English language classes. This applies to the EFL context in Japan, where this study was conducted. Not surprisingly, it is challenging for novice writers to understand academic writing rules because not many students experience academic writing or learn rules of citation before entering university. For instance, it is common for first-year university students to be unfamiliar with an essay, the main genre in universities, that is, a piece of writing that presents information or the writer's ideas logically in the structure of an introduction, a body, and a conclusion [4]. Furthermore, first-year university students tend not to be aware of their writing features and behavior, partly because of limited experience of writing and receiving feedback from teachers and peers.

In teaching and learning academic writing, peer feedback plays a vital role (e.g., [5]), which is often used complementarily with teacher feedback. In peer feedback, student writers exchange their drafts with peers in the form of written, oral, or a combination of written and oral feedback [6]. Peer feedback is regarded as peer support [7] because peers actively take part in giving feedback on drafts and helping peers to improve them. Activities involving peers are named differently among researchers depending on the purpose or focus of the activities although they are called interchangeably: peer revision [8], peer review [2, 9], peer evaluation [10], and peer response [1, 11–14]. While peer evaluation emphasizes judgment or grading, “peer feedback stresses the provision of rich feedback without grades or formal evaluations ([6], p. 82).”

Peer feedback has been used and valued in various classroom settings (e.g., [7, 9–10, 15]) owing to many merits and positive effects on students' development of writing in a first language (L1) and a second language (L2). More specifically, it creates opportunities for students to learn from each other and collaborate. For instance, Rollinson examined the effect of peer feedback in the ESL writing class and argued that peer readers can provide useful feedback on peers' writing if they are trained and peer feedback sessions are set up properly [16]. Additional advantages are related to the development of writing fluency, mitigation of writing anxiety, and improvement in the sense of readers [10].

Crinon and Marin stressed the important role readers play in peer feedback [7]. They investigated how young French learners' L1 writing ability was developed in collaborative revision activities through peer feedback. This study revealed that the readers of texts played a tutor's role and benefited from peer feedback more than the writers of the texts who were given feedback comments. This finding indicated that the readers perceived and learned various generic and textual features from peers' texts, which enabled them to improve their texts in terms of coherence and quality [7]. Similarly, it was suggested that students may become critical readers by reading and analyzing peers' texts in peer feedback, and consequently, they are likely to read and revise their texts critically [16]. This implies that peer feedback plays a crucial role in the development of critical reading and writing skills.

In EFL contexts, peer readers' comments in peer feedback were investigated with a focus on Japanese university students' writing and revision activities [17]. The results showed that the content of texts was the most frequent aspect of peer feedback comments, followed by vocabulary. Another study that examined peer feedback by Japanese university students indicated that peer readers focused on the writing style, which is a local issue [14], more than on the so-called global issues of content or organization of writing [18]. However, the study revealed that students with higher writing ability were able to take peers' advice on content and organization in revising their drafts. Ono found that the number of praises was higher than that of shortcomings in Japanese university students' feedback comments [19]. Moreover, the most frequent aspect in their feedback comments

was the content of texts, followed by language [19]. These findings are almost in accordance with Hirose's study [17], but incongruent with Sawaya and Yokoyama's [18]. Furthermore, skilled writers and less-skilled writers were found to differ in the way they made comments [19]. The former tended to clearly explain reasons or justification for praises or shortcomings and explicitly suggest ideas for revisions. In contrast, the latter hardly provided suggestions for improvement of texts, especially in terms of content and organization. These findings suggest that teachers should encourage students to focus on global issues instead of minor local issues, make specific, constructive comments, describe reasons for praises and shortcomings, and provide suggestions for the improvement of peers' texts.

Students' perceptions of peer feedback have been investigated, and the results have not reached a consensus. This is because peer feedback is conducted differently depending on individual teaching contexts, and teachers' instructions may also vary depending on the purpose and focus of this activity. For example, 12 high-proficient ESL graduate students from different majors participated in peer review sessions and regarded them as useful [2]. Importantly, the students carefully selected which comments they should incorporate into their revisions, and the inclusion of peer feedback in the teaching of L2 writing was supported. Furthermore, a questionnaire survey of 121 first- and second-year ESL students in Hong Kong and Taiwan revealed that most (93%) had positive views on peer feedback as a form of feedback [20]. In contrast, Nelson and Carson found that 11 ESL students with Chinese or Spanish language backgrounds did not perceive peer feedback positively and preferred teacher feedback [21]. However, those students valued peers' negative feedback that specified problematic areas of their writing, whereas they perceived comments regarding grammar and sentences as relatively ineffective. Thus, peer feedback is not always received positively by students, and peers' comments concerning global issues are likely to be seen as useful by students.

Considering mixed findings of previous studies, more studies need to determine L2 university students' perceptions of peer feedback, especially in EFL contexts. It is also worth investigating how first-year university students, who tend to have limited knowledge and experience in academic writing, perceive peer feedback. Moreover, it is questionable whether they can identify strengths and weaknesses in their writing. Therefore, this study aimed to investigate the perceptions of Japanese first-year university students' writing and revising essays through self-evaluation, peer feedback, and self-reflection. Four research questions were formulated for this study.

1. What aspects of essays do first-year university students focus on the self-evaluation of essays?
2. Do first-year university students find peer feedback useful in revising an essay?
3. Is there a relationship between essay scores and views on peer feedback?
4. What positive or negative views do first-year university students have on peer feedback?

2. Method

2.1 Participants

The participants were 122 Japanese first-year students at a university in Japan. Fifty-nine students from three classes participated in this study in 2018, whereas

63 students from three classes participated in the study in 2019. All participants provided written informed consent before the study. All of them majored in law or political science and were enrolled in either regular English language classes or the intensive English language course, in both of which they were studying English as an EFL. The former class takes place twice and the latter four times per week. Generally speaking, students in the intensive English course tend to be more motivated to study English because they plan to study abroad. All of them had studied English for at least six years before entering the university.

Their English proficiency was intermediate, ranging from Level B1 to Level B2 according to the Common European Framework of Reference for Languages. They were taught how to write an essay and cite sources in the previous semester and had the experience of paragraph writing and essay writing. Thus, by the time of this essay assignment, the participants were supposed to understand the structure of the essay and paragraphs and citation rules. Some participants also wrote essays in other English classes; therefore, their writing expertise varied to some extent.

2.2 Materials

Two essay topics were selected in accordance with the textbook used. One topic was creating an original robot, while the other was explaining an interesting job (see Appendix 1). Expected readers (i.e., classmates and teachers) of the essay were specified in the writing prompts. On the assignment paper, the following instructions were given concerning essay writing: First, write an essay of approximately 400 words. Second, pay attention to the structure of the essay, which is supposed to have an introduction, body paragraphs, and a conclusion. Third, make sure that each paragraph has a topic sentence and several supporting sentences, whereas a concluding sentence is optional. Fourth, provide adequate details and appropriate examples, by adjusting the concrete or abstract information. Fifth, cite at least one source and use citations appropriately. Do not plagiarize. Under the instructions, the assessment criteria were also written, which included a) content and source use: 10 points, b) organization and logic: 10 points, c) language use: 5 points, and d) reader awareness: 5 points.

A self-reflection worksheet regarding writing the first draft was prepared, where the writer was asked to write about how they intended to convey their ideas (see Appendix 2). Self-reflection was set for heuristic purposes [16]. More precisely, the writer had the opportunity to reflect on their writing process and product critically. In addition, the participants were instructed to evaluate the strengths of their draft and points to be improved considering the following aspects: content, source use, organization and logic, language use, and reader awareness. These aspects corresponded to the criteria used to mark essays, which were shared with the participants. The specific aspects in the self-evaluation sheet were intended to help the writer critically analyze and identify what is good or not in each aspect of the draft. It is regarded as a preparation stage before conducting peer feedback because writers need to be critical readers of peers' essays.

The written peer feedback sheet was structured in a problem-solving format (see Appendix 3). More specifically, readers were encouraged to fill in the section of "problems and their reasons" and "suggestions for improvement" regarding content, the overall structure, paragraph structure, logic, and source use. If readers found good points about each aspect of the essay, they were advised to provide positive comments. In giving feedback comments, it is important to provide both praise and comments regarding improvement because the former often strengthens the writer's confidence and the latter helps the writer revise and improve the draft [14, 21]. In response to the peer feedback, the peer feedback sheet also had a section

named “self-reflection after revisions,” in which the writer reflects on the revision process. The writer was supposed to check which peer feedback comment is incorporated in revising the essay. More specifically, the writer was instructed to judge whether the suggestion was “fully accepted,” “partly accepted,” or “not accepted” and provide the reason.

In the self-reflection questionnaire, the writer answered the following questions. (1) How did you revise the draft and in what point does the final draft differ from the first draft? (2) Was peer feedback useful in revising the draft? Select one of the four: very useful, useful, not useful, not useful at all. (3) Provide the reason for your choice as detailed as possible. The questionnaire was written in Japanese.

2.3 Procedures

The participants learned a writing process in class, where brainstorming, making an outline, writing a draft, revising, and editing were explained. They had already learned the essay structure and citation, had written a paragraph and an essay, and had experienced peer feedback when paragraph writing was assigned. Following the instructions, the participants first brainstormed ideas using a mind mapping approach for eight minutes and then talked about them in pairs asking questions or explaining ideas. After that, they were advised to decide what they wanted to write about based on the ideas on the mind map and make an outline from it. The participants were instructed to write a draft of a 400-word essay as homework, reflect on the writing process, and evaluate it by providing strengths and points to be improved in the draft. After writing the draft and self-evaluation, both were submitted to an online system.

Twenty-minute peer feedback sessions took place in a computer-assisted language learning classroom, where the English class was usually held, and thus, the participants were familiar with the classroom environment. They were instructed to read peers' essays in pairs and make comments on a digital peer feedback sheet using their L1 (i.e., Japanese). This is because the use of L1 enables writers to express their thoughts and comments fluently. Although peer feedback can be given in oral and/or written forms, a written form was used in this study so that the researcher could follow the participants' comments and progress in revision [16]. Compared to oral feedback, the written feedback form allows writers and readers to consider, collaborate, and reflect on essays more actively [16]. Before the peer feedback sessions began, the following instructions were given to the participants: (1) explaining the purpose of peer feedback, (2) emphasizing the value of honest evaluation, (3) encouraging them to give praise and constructive comments, (4) encouraging them to give clear and specific comments, and (5) making sure that the writer, not the reader, can decide what and how to revise [14]. Additionally, examples of effective and ineffective feedback comments were shown to the participants. These examples were made available on the computer screen, so they could look at them anytime during peer feedback sessions. The participants were also informed that they could ask the teacher any questions during the peer feedback session.

Each participant took part in peer feedback sessions twice in pairs; therefore, they had opportunities to read and evaluate two essays written by peers. Providing students with more than one peer feedback session with different peers is important because it allowed them to receive more comments from different readers' viewpoints and also to read multiple drafts to learn variations of writing. Furthermore, even when one peer cannot make useful or appropriate comments, another peer may provide constructive feedback. Thus, two rounds of peer feedback sessions could guarantee a positive experience for both readers and writers to some extent. After the participants received feedback comments, they were advised to read them

thoroughly and revise their draft based on accordingly and what they had learned from the peer feedback sessions. At this point, it is noteworthy that the researcher emphasized that the writer has ownership over the essay and a right to decide what to revise and that they do not have to take all the advice given by peers [16]. Thus, the participants were encouraged to think carefully about how to revise and make a decision about it by themselves. After completing the final draft, they filled in a questionnaire, where they wrote about how they revised the draft and what they thought about the peer feedback activities. Their peer feedback sheets, which were filled with feedback comments, final drafts, and questionnaires were collected.

2.4 Scoring and data analysis

The final drafts were scored based on the criteria created by the researcher for this study. It had four aspects. First, content and source use (10 points) serve to identify whether the essay corresponds to the essay question or theme, whether the essay is interesting to read, and whether sources are cited appropriately. Second, organization and logic (10 points) focus on the essay, paragraph structure, and logical flow of the essay. Third, language use (5 points) identifies whether an essay is written in an appropriate language. Finally, awareness of readers (5 points) identifies whether the writer considers readers' expectations and adjusts the content and expressions accordingly. A total of 122 essays were marked using the criteria described above by the researcher. SPSS Statistics 27 was used to perform a chi-square test and analyze the correlations between the essay scores and the views on the usefulness of peer feedback.

Considering the analysis of self-evaluation of the first drafts, the participants' responses were divided into strengths and weaknesses of their essays and categorized into five aspects: content, citation, organization and logic, language use, and reader awareness, which followed the criteria used in the rubric. The number of each category was calculated.

The self-reflection questionnaire regarding peer feedback was analyzed using the free software named KH Coder 3 [22]. This software is used for text mining or quantitative content analysis, which is an automated analytical method for extracting a large amount of textual data. It enables the user to analyze textual data objectively by quantifying frequent words and identifying and visualizing the relationships between different words. In this study, the written comments of the participants were analyzed using KH Coder 3. First, the words used frequently in the comments were quantified and listed to determine the aspects of the peer feedback the participants perceived positively or negatively. Second, the function of the co-occurrence network was employed to reveal the relationship between the different words pointed out by the participants. Third, correspondence analysis was conducted to determine whether essay scores corresponded to the evaluation of peer feedback. More specifically, we analyzed which groups of writers are associated with certain concepts of revision and peer feedback.

3. Results and discussion

3.1 Basic results of the essays

The essays were divided into three groups (i.e., high, medium, and low) depending on the scores. **Table 1** shows the descriptive features of the three essay groups. The results of one-way independent analysis of variance (ANOVA) showed that these groups differed significantly in scores ($F(2, 119) = 284.263, p < .001, \eta^2 = .83$).

Group	<i>n</i>	Mean	<i>SD</i>	<i>Min</i>	<i>Max</i>
High	42	28.38	0.492	28	29
Medium	63	26.14	0.737	25	27
Low	17	23.18	1.334	19	24
Total	122	26.50	1.855	19	29

Note: Full mark is 30.

Table 1.
 Descriptive statistics of the essay scores.

Tukey's post-hoc test indicated that each group significantly differed in mean scores ($p < .05$).

3.2 Writers' self-evaluation of essays

The results of the participants' self-evaluation of their first drafts showed that the number of positive comments related to strengths ($n = 407$) of the essays was nearly twice as many as those related to weaknesses ($n = 220$, see **Table 2**). This tendency was observed for every aspect of the evaluation criteria. This implies that writers tend to focus more on the strengths of their writing than on their weaknesses. This tendency was also observed in peer feedback comments previously conducted with Japanese university students [19].

Among the positive comments, the number of comments concerning "reader awareness" was the most frequent ($n = 108$), accounting for 26.54% of the positive comments. This finding suggests that most of the writers paid attention to readers' expectations of the essay and made an effort to accommodate their essays to their readers (i.e., classmates and a teacher). The second most frequent positive comments were related to "organization and logic" ($n = 93$, 22.85%), indicating that the writers carefully constructed the introduction, body, and conclusion of each paragraph. The participants made fewer comments on "citation" ($n = 52$, 12.78%) and "content" ($n = 70$, 17.20%), which implies that they were not necessarily confident in these areas of essays.

Considering the comments concerning the weaknesses of the essays, the most frequent aspect pointed out was "language use" ($n = 67$), which accounted for 30.45% of the total number of comments on weaknesses. This indicates that "language use" is the most concerning aspect for the participants. Furthermore, the total number of comments regarding "language use" was the most frequent ($n = 151$) among the five aspects. This result implies that L2 student writers are concerned about local issues of "language use," which supports the finding that the language-related style of writing was the most prominent aspect of students' feedback comments [18]. Furthermore, "citation" ($n = 43$, 19.55%) and "organization and logic" ($n = 46$, 20.91%) were also pointed out as shortcomings.

Aspects	Content	Citation	Organization and logic	Language use	Reader awareness	Total
Strength	70	52	93	84	108	407
Weakness	37	43	46	67	27	220
Total	107	95	139	151	135	627

Table 2.
 Number of comments given in the self-evaluation.

It is noteworthy that some participants pointed out both strengths and weaknesses of the essays. These results suggest that students were good at finding the strengths of their writing. However, writers seemed to find it challenging to analyze and identify problematic areas of writing, especially with regard to the global issue of content by themselves. This may be because reading self-written texts critically requires critical and objective views.

3.3 The relationship between essay scores and views on peer feedback

The results of the questionnaire analysis revealed that 89 students (72.95%) found peer feedback very useful and 19 participants (15.57%) found it useful, whereas 14 participants (11.48%) regarded it as not useful (**Table 3**). These results indicate that the majority of participants (88.52%) had positive views on peer feedback. This means that the participants thought peer feedback was worthy and they benefited from this experience in revising their essays. This finding is in accordance with those of previous studies [2, 20].

However, as shown in **Table 3**, some participants found peer feedback not useful regardless of the essay groups; the high-graded group had eight participants (19.05%) who viewed peer feedback as not useful, which was more than four (6.35%) and two participants (11.76%) in the medium- and low-grade groups, respectively. These findings suggest that as writing expertise increases, writers do not tend to find peer feedback useful.

To determine the association between essay scores and writers' views on the usefulness of peer feedback, a chi-square test was conducted, and the result did not show a significant difference ($\chi^2(4) = 6.006, p > .199$). This result indicates that the essay scores are not associated with the participants' views on the usefulness of peer feedback. Similarly, a Pearson's correlation coefficient showed that there was no correlation between essay scores and the recognition of the usefulness of peer feedback ($r = .159, p = .080$). Although the statistical analyses indicate that essay scores do not correlate with the view on peer feedback, the participants' comments are worthy of investigation. The next section details the analysis of comments that reflect peer feedback.

3.4 Co-occurrence network of positive comments on peer feedback

Analysis of the participants' comments regarding the usefulness or unusefulness of peer feedback revealed 125 positive and 39 negative comments. Among the 122 participants, 14 provided both positive and negative comments on various aspects of peer feedback.

Positive comments were analyzed using a co-occurrence network, and the results are shown in **Figure 1**. As shown in **Figure 1**, the participants' positive comments made seven communities, which are shown as subgroups. The most central community (subgroup 1) is related to writers' awareness raising toward problematic areas of their writing from an objective point of view. In other words, the writers had positive views on constructive comments given by their peers. According to **Figure 1**, it is implied that peers pointed out problematic areas critically and it was received positively. Furthermore, the relationship between reading and writing is linked and noticed through peer feedback, as the following comment shows:

Peers' comments enable me to notice things that I was not aware and reading others' writing made me find how to improve my essay. (18E1-3)

Degree of usefulness	Essay score			Total (%)
	High (%)	Medium (%)	Low (%)	
Very useful	26 (61.90)	49 (77.78)	14 (82.35)	89 (72.95)
Useful	8 (19.05)	10 (15.83)	1 (5.88)	19 (15.57)
Not useful	8 (19.05)	4 (6.35)	2 (11.76)	14 (11.48)
Total	42	63	17	122

Table 3.
 Students' views on the usefulness of peer feedback.

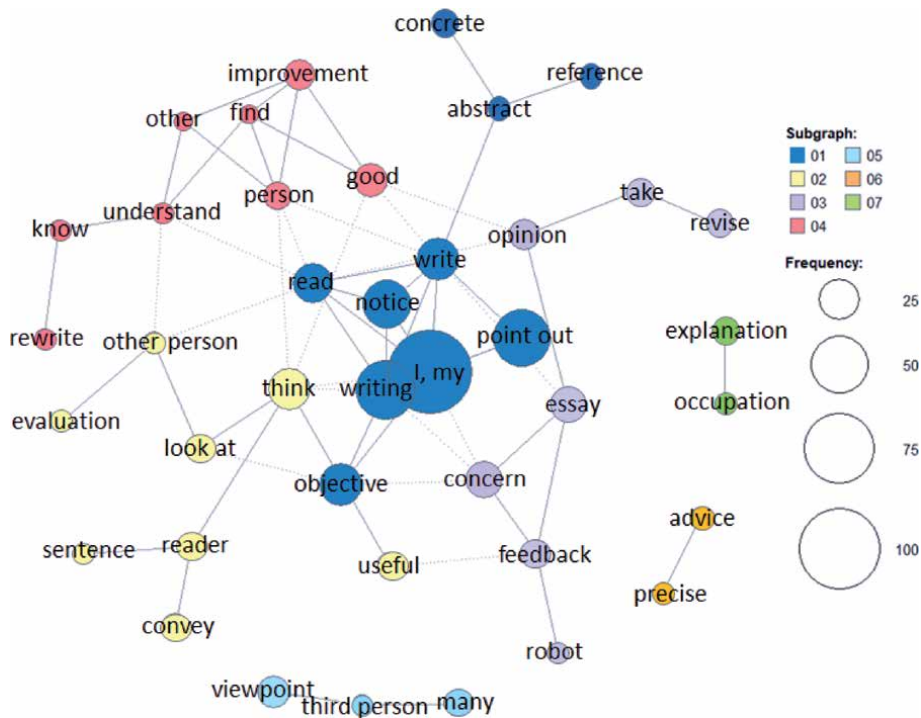


Figure 1.
 Co-occurrence network of positive comments on peer feedback.

By reading peers' essays, the writers were exposed to peers' writing and learned the features of good essays, which helped developing critical reading skills for their writing [7, 16].

The second community (subgroup 2) is associated with peers' evaluations and readers' expectations. Having the essay evaluated by peers encourages writers to consider their writing from new perspectives, and peer feedback allows writers to make sure that their ideas in the essays are conveyed to readers.

The third community (subgroup 3) is related to the importance of absorbing peers' opinions and feedback comments in their writing. More precisely, 16 students mentioned that they had some concerns about their writing, but peer feedback helped them to resolve the problems or concerns. Resolving writers' concerns and reducing their writing anxiety have been reported as advantages of peer feedback [10]. Since this community had the essay topic "robot" as the keyword, especially those who wrote about it, tend to think this way.

The fourth community (subgroup 4) focuses on the revision and improvement of essays. In this community, feedback comments seemed to help writers understand how to revise their essays, as the following participant's comment shows:

I was able to make my essay better because peers pointed out things from the reader's perspective that I did not notice. I incorporated peers' opinions into my essay when revising it, and even when I did not accept a suggestion, I reconsidered my writing and thought about the reason I decided not to take it. Then, I got to know my essay deeply and considered why I wrote it the way it was written.
(19E1-92)

The writer's ownership is clearly presented, carefully selecting advice to take. This revision behavior is regarded as a characteristic of advanced writers [2]. It is important that students understand that they are decision-makers and that they do not need to take every advice and suggestion from peers when they come up with a better way to revise or when they think points pointed out should not be revised.

The fifth community (subgroup 5) is related to the amount of advice the writers received from peers. They appreciated a lot of advice or feedback from a third-person's point of view. This means that peers succeeded in pointing out or suggesting things that writers did not realize, which helped them revise the essays and learn new things.

The sixth community (subgroup 6) has only two nodes, namely, "advice" and "precise," which implies that the writers were satisfied with peers' concrete advice and suggestions. Making specific, precise comments is key to successful feedback [14]. Presumably, the instructions given to the participants before peer feedback may have played a role in encouraging them to give advice and suggestions as detailed as possible.

Similarly, the seventh community (subgroup 7) also has two nodes: "explanation" and "occupation". These are related to another essay topic, in which the participants were asked to choose their job of interest and explain its features. Because all writers chose their occupation as an essay topic, not everyone was familiar with the selected occupation. Therefore, from the reader's perspective, readers seemed to point out the lack of explanation or ambiguity of certain expressions about the occupation chosen.

Although communities 5, 6, and 7 are independent without a strong connection to the other communities, some participants pointed out more than one positive comment on peer feedback. As shown in **Figure 1**, participants' positive views on peer feedback were demonstrated through various aspects of peer feedback.

3.5 Co-occurrence network of negative comments on peer feedback

Figure 2 visualizes the negative comments received by the participants. Compared to positive comments ($n = 125$), the number of negative comments ($n = 39$) was substantially lower, which suggests that most participants had positive views on their peer feedback experience. However, it is important to pay attention to the participants' negative comments to identify the challenges the participants encountered during peer feedback.

The first community (subgroup 1) identifies that the participants wanted more comments or concrete suggestions from peers to improve their drafts. This implies that they could not benefit from peer feedback effectively because of insufficient feedback. Regarding this point, one participant requested a follow-up session between the writer and reader after peer feedback as follows:

Since I didn't receive concrete opinions, I didn't know what is lacking (in my essay). As I was ready to receive harsh comments, I wanted more suggestions. As readers of the essay hesitate to make critical comments with their names shown, I thought that peer feedback in an anonymous way would work better. (19E1-101)

This suggestion is reasonable because students may be hesitant or reluctant to give critical comments to their peers. At the same time, it is crucial that teachers encourage students to give constructive and critical comments because they are more beneficial for receivers than just giving praises, and they can learn more from each other by critically reading and evaluating essays [7, 16].

The third community (subgroup 3) refers to a lack of advice that receivers wanted to take and the difficulty in taking advice from peers. More specifically, while some participants received advice, they found challenging to reflect it on their essays. It is not negative if students carefully select which advice they should incorporate into their writing because it means that they consider the revision and act as decision-makers [14].

The fourth community (subgroup 4) is related to the feeling of pity when writers could not revise the essay based on feedback due to the word limit. In some cases, writers pointed out that the feedback comments were not comprehensible, and therefore, they could not make use of them.

The fifth community (subgroup 5) identifies the struggle to improve the essay due to a lack of suggestions. The following participant points out the limitations of peer feedback by novice writers:

I thought that even if those who have not been used to academic writing evaluated each other's essays, we could make only a little progress (in revisions). (18I-56)

It is true that some students may not be able to provide useful comments and suggestions, and that especially less-skilled writers tend to struggle to make comments on global issues and suggestions [19]. However, experiencing a reader's perspective is helpful in revising the essay while critically reading and evaluating the peer's essay [7]. Furthermore, more coaching is necessary before and during peer feedback sessions [10].

The sixth community (subgroup 6) is associated with an insufficient number of critical comments from peers and difficulty in revising based on peers' comments. Some comments from peers may not be always precise and comprehensive.

Peers' comments were not appropriate and abstract, and therefore, I did not know what to revise in my essay. (19I-57)

Providing appropriate and concrete advice is not easy for novice writers. However, even if they receive inappropriate advice or suggestions they disagree with, they can make a decision about revisions. In this sense, peers' feedback comments allow writers to consider their essays actively even when they decide not to follow the advice they received.

3.6 Correspondence analysis of essay scores and peer feedback

The results of the correspondence analysis of essay score groups and positive comments on peer feedback are shown in **Figure 3**. It was found that some keywords such as "read," "notice," "feedback," and "reader" were related to all three groups, whereas some words and phrases had a specific association with particular groups.

These responses indicate the important role of readers in peer feedback. The experience of a reader's viewpoint in peer feedback enhances students' awareness of their writing [7, 16].

In addition, positive comments given by the medium-graded group are associated with "content" of essays. The participants appreciate the feedback concerning "content" of the essay as follows:

My peer taught me (how to revise) the content, which I was not aware of due to my subjective view. I had not recognized that the final sentence in a conclusion was not relevant to the essay content when I was writing, but my peer pointed it out and I was convinced (to revise it). (18E1-4)

When I was writing my essay, it was difficult to find deviation of my argument and appropriacy of content because of my accomplished feeling. But I found that analyzing objectively from a third-person's perspective could tell me many things to be improved. I also thought that it was good to have more than one person read the essay because they can clearly indicate things to change. (18E1-19)

Thus, feedback comments regarding global issues are viewed as beneficial. In line with this point regarding the content of essays, "notice," "body," "occupation," and "precise" seem to stand out in this group. These keywords suggest that the participants received feedback on the explanation of the occupation they chose as an essay topic in the body of the essay. Specific comments concerning the main theme of the essay seem to be appreciated and viewed positively.

In contrast, the low-graded essay group paid attention to "citation" in their positive comments. They found advice on citations from peers useful. Moreover, reading peers' essays also helps to learn source use.

It was good that, by reading others' essays, I realized that my way of citations is not appropriate. (18E1-28)

Since the participants were supposed to cite self-selected sources in their essays, they seemed to learn appropriate citing rules and conventions by reading each other's essays. This suggests that reading peers' texts helps find solutions and suggestions to improve their texts [16].

The negative comments on peer feedback and its relationship with the essay score groups are shown in **Figure 4**. **Figure 4** shows that "write" and "revise" are related to all three essay groups. The low-graded group is associated with "content"-related feedback. To be more precise, two writers made the following points:

My peer seldom gave me comments. I wished I could have had more comments on the content. (18E1-18)

I didn't exactly know how to revise the content because the comments I received were not concrete. (18E1-28)

Unlike the medium-graded group, which had positive views on content-related feedback, the low-graded group did not seem to be satisfied with the feedback comments regarding the content. This implies that the latter group could not improve the content of the essay in the revision process and that it was difficult to revise the content of the draft without receiving clear advice.

The word "part" is also related to the low-graded group as follows:

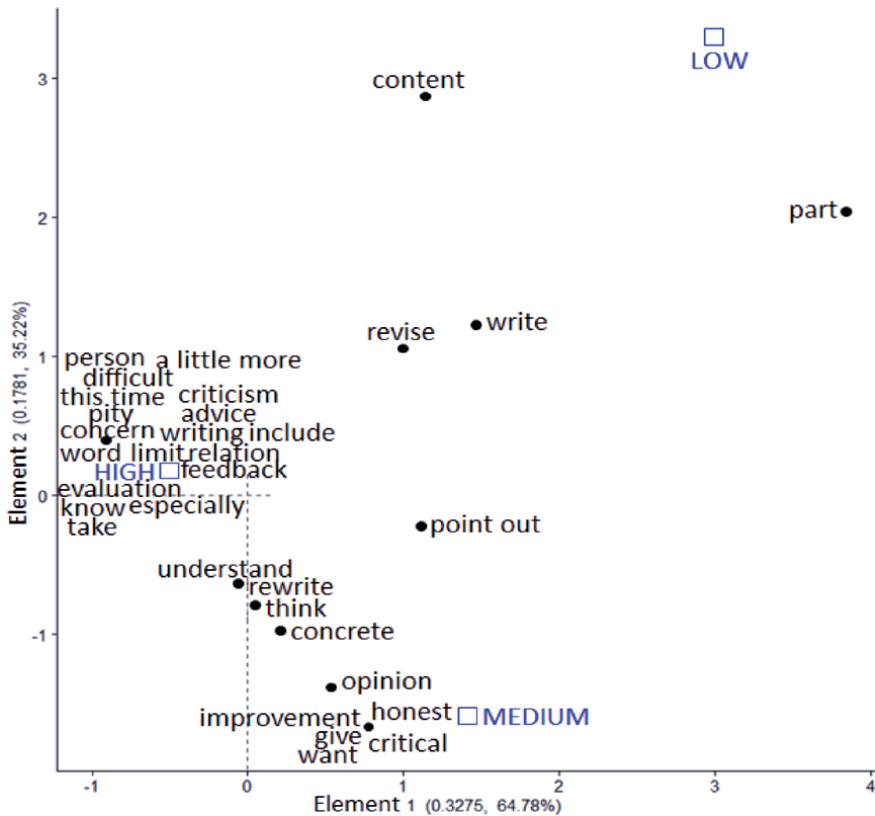


Figure 4. Correspondence analysis of essay scores and negative comments on peer feedback.

While I was happy to receive many positive comments on my essay, I hardly found parts that I wanted to revise (based on the peers' comments). (19E1-95)

Receiving positive comments only was not necessarily viewed positively by the participant. A lack of constructive feedback or giving ambiguous comments does not help writers revise. Providing clear advice is critical by specifying which part of the essay writers need to consider revising.

4. Conclusion

This study demonstrated that it is important to provide English language learners with opportunities to analyze their writing, read and evaluate peers' writing, and reflect on their writing process and outcomes through a learning cycle of self-evaluation, peer feedback, and self-reflection. This study obtained the following four findings. First, first-year university students paid the most attention to "reader awareness" and regarded it as their strength in essays, whereas they viewed "language use" as weakness. Furthermore, the appropriacy of "content" and "citation" was relatively difficult to evaluate in self-evaluation because the former could be viewed subjectively and the latter requires adequate knowledge of source use. Second, the majority of participants (88.52%) viewed peer feedback positively, although 11.48% of them found it not useful for various reasons. Third, there was no significant correlation between essay scores and views on peer feedback as some students considered peer feedback not useful regardless of their writing expertise. Fourth, correspondence

analysis indicated that essay score groups had different views on the aspects of essays. More precisely, the high-graded group tended to appreciate peers' comments on paragraphs, which led to revisions of the organization of essays. The medium-graded group valued content-related comments, whereas the low-graded group found comments on citation useful.

Although a number of positive comments were shown by the participants, the way peer feedback is conducted needs caution depending on its purpose and context. This study employed digital written feedback showing the names of writers and readers in a classroom, but anonymous feedback may enhance students' ability and motivation to make more critical, constructive feedback comments. For instance, "double-blind" peer feedback may work better in some contexts. Another point is that a combination of written feedback and a follow-up oral interaction session could be worth conducting. Finally, explicit instructions should be provided before conducting peer feedback. More specifically, teachers need to inform students which aspects of writing they need to focus on with an emphasis on global issues and encourage them to give specific, critical comments with reasons and suggestions, which lead to effective collaborative learning and the development of critical reading and writing skills.

Future studies may consider the effects of different ways of peer feedback and students' perceptions of them. As asynchronous/synchronous online classes have been conducted in recent years worldwide, students may benefit from peer feedback via digital tools. A writing approach from the readers' perspective helps foster competent writers.

Appendix 1. Prompts for essay writing tasks

Writing Task 1: You are a robot designer. What type of robot would you design? Why? Explain its purpose and features and the reason for developing it and give it a name. Expected readers are your classmates and a teacher.

Writing Task 2: What kind of job are you interested in? Describe features of the job and explain reasons why you are interested in the job. Expected readers are your classmates and a teacher.

Appendix 2. Self-evaluation worksheet

After you finish writing the draft of your essay, let us reflect on your writing and evaluate it by yourself.

1. When writing a draft, how did you intend to convey your ideas to readers? (You may answer in Japanese).
2. Fill in the self-evaluation sheet below in Japanese.

Aspects for reading a draft	Strengths	Points to be improved
Content		
Source use		
Organization and logic		
Language use		
Reader awareness		

Appendix 3. Peer feedback worksheet

Peer Feedback

Essay writer's name () Reader/Evaluator's name ().

Read a peer's essay and fill in the worksheet below in Japanese.


Aspects for reading the essay	Feedback comments	Self-reflection after revisions
	Problems and their reasons If the essay is well-written, you may write ⊙.	Suggestions for improvement Choose one of the following marks and write its reason. I fully accepted the suggestion: ○ I partly accepted the suggestion: △ I did not accept the suggestion: ×
Content Does the essay correspond to the essay question? Is the essay interesting?		
Overall Structure Are the introduction (a thesis statement), body, and conclusion appropriate?		
Paragraph Structure Are there a topic sentence, supporting sentences, and a concluding sentence?		
Logic Do ideas flow in a logical manner? Is an example or evidence shown?		
Source Use Are sources cited appropriately? Is there a list of references?		

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University Teachers' Conceptions of What University Is: Implications for the Future of Higher Education

Elisa Chaleta

Abstract

This chapter presents the perception of university teachers about the university, the most recent changes and how they have influenced their activity. The phenomenographic study was conducted with 10 university teachers, nine females and one male with more than 15 years of professional activity. The perception of the university emerges, in the teachers' voice, focused on the description of its mission, namely as a context for the production and diffusion of knowledge to society, as a space for creative and critical thinking about the world, as an interdisciplinary space and as a system focused on teaching and research. It also includes characteristics related to its structure and functioning, such as the level of hierarchization, bureaucratization, competitiveness, dehumanization and bibliometrics overvaluation. Regarding the perceived changes, they are related to the structural reforms resulting from the Bologna Process, diverse student populations, research and internationalization, new technologies, institutional cooperation, bureaucratization and relationship with the community. Teachers also revealed some dissatisfaction in the way they are experiencing university life due to the overwork resulting from the multiple tasks required in the four activity strands (teaching, research, management and extension) with an impact on quality and innovation, but in line with what the institution demands.

Keywords: university, higher education, experience, perception of university teachers, phenomenographic analysis

1. Introduction

The idea of school, massified in the last decades by the democratization of societies, is starting to be questioned in its mission as a 'social mobility elevator' and constrained by the dictates of economic development. As Paulo Freire stated four decades ago, the school, considered here in its broadest sense, cannot be seen detached from the sociohistorical, economic and political context at the time it is analysed [1].

The university, as we know it today, is an institution, if not in crisis, then in change. The twenty-first century, in particular, has brought remarkable global changes that have been questioning previous models of the university such as Kant's, who understood the mission of the university/faculties as the development of the various branches of knowledge outside the control of the political power with

supreme authority and total freedom of thought to Humboldt's more extreme vision, which proposed professors total freedom to research and teach what they researched and students freedom to learn and research, to chart their learning paths and decide the timing of their final examinations [2]. Another characteristic of the Humboldtian University (and of the German system) was that students could change universities whenever they wanted and that professors had to change, necessarily, to progress in their careers. This aspect assumes a centrality in the current dominant thinking about the university that considers teachers' and students' mobility as central [3].

Over the centuries, the university has been endowed with respectability, trust and prestige, ensuring for centuries that those who attended it had a high social status and a guarantee of well-paid professions. This relevance attributed to university kept it, for a long time, protected from true scrutiny of its nature, its functioning and its mission as if it was a single reality regardless of the historical moment or its geographical location [4]. The report on the condition of knowledge in the most developed societies commissioned by the Council of Universities to the government of Quebec and which resulted in the work of Lyotard 'The Post-Modern Condition' showed that the university assumed, throughout history, multiple forms, varied functions and different missions and that it was in modernity that it experienced its maximum brilliance [5]. The end of modernity determined the end of the university as we knew it and determined the urgency of the university to rethink itself.

Another of the central themes that mark the discussion of the university's mission today dates back to the eighteenth century, from the proposal of Adam Smith, who advocates a conception of the university committed to the usefulness of knowledge for the progress of society. This affirms the importance of the organization of the institution and of knowledge centered on social needs. It theorizes a school that the middle classes can access and where teachers are paid according to performance. The evolution of this trend, under Bentham's influence, led to the emergence in the nineteenth century of the University of London as a secular institution, concerned with the development of professional skills and its openness to less-favoured social classes. Along the same lines followed the foundation of the 'Grandes Écoles' in the eighteenth century France, whose design was aimed at the high-level training of state officials but, in this case, under the central administration of the state. It resulted in a highly prestigious system that is still in existence, strongly elitist, with an essentially technical-professional focus. The excellence of liberal education aimed at the training of a cosmopolitan citizen is found in the guidelines identified in the archetypical model of the Oxford and Cambridge Universities, as those that embody the ideal of training the cultural and political elites [6].

All these ways of conceiving and organizing universities persist today and are a factor of internal tensions in each institution in which teachers are led/forced to assume the discourse of the researcher, the public servant, the economic agent and the guardian of the great civilizational values. The university, as a place of production, legitimization and dissemination of knowledge, has entered into upheaval, making it imperative, but almost impossible, to redefine the status and mission of the university in this contemporary world. Probably because in recent times there has been a tendency towards a certain Americanization of the university in the sense of the generalized imposition of the regime of the logic of money in place of the notion of natural identity as the instance, which determines all forms of investment in social life [7] with a significant loss of the function of the production of national culture. Once this function of legitimating a political and social organization has been lost, the university has adopted a business model and is governed by principles of accountability, effectiveness and efficiency, functionalization and de-professionalization of teachers [8–11]. Readings point out the fact that along with the corporatization of universities, there has been the emergence of the

concept of excellence, which has become central, but absolutely empty of content (the technobureaucratic notion of excellence) [8]. Jesuino considers that the current neoliberal turn, in which the 'markets' take centre stage, is leading universities to the configuration of companies very directed toward the cult of efficiency (doing more with less) and to consider knowledge not as an end in itself, but as a means (an instrument susceptible of economic added value) [6].

The entrepreneurial culture that could bring greater freedom and autonomy ended up resulting in greater control and verticalization. The effect on universities has determined the change of organization from horizontal models to vertical models (often resulting from legislative changes at the level of the legal regime of the institutions), which has caused perplexity among teaching staff and even leaders and also some resistance due to the impact on the institutional organization (grouping and concentration/fusion of traditional departments and institutes in the name of a certain concept of efficiency reinforced by the imposition of internal and external evaluation mechanisms) and on the redirection of research (from basic to applied). The studies conducted by Fulton in several British universities showed collective ambivalence about the desirability of the changes [12], oscillating between identification with the managerial objectives considered reasonable and identification with traditional and more sceptical academic values [13]. In this context Barnett identifies two lines of thought. The first, more conservative and marked by an ideal of higher education more separated from society, considers the existence of intellectual spaces which in themselves justify the university. The second, more marked by postmodern persuasion and the idea that the university has only instrumental ends and is more concerned with its form than its substance. Both positions are limited for the contemporary situation of universities, making it necessary to take a broader look at the complexity of a university inexorably intertwined with society in general and with new universal challenges [14].

Another milestone in the context of changes in higher education is the Bologna Declaration of 1999, currently signed by 47 European countries. The document proposes the creation of a European Higher Education Area that is internationally competitive by introducing mechanisms for greater compatibility and comparability of higher education systems in order to promote the mobility and employability of citizens. Despite its very general initial objectives for a long-term period involving the change of many political actors, much has been achieved in the context of the European space and even beyond [15–19]. The increasing success of mobility programmes, transparency and recognition of foreign programmes and degrees has been progressively linked to broader economic imperatives in the framework of higher education [20] deepened in the agenda of the Lisbon Strategy (European Council, 2000), which aimed at a knowledge-based economy to make the European Union the most competitive and dynamic region in the world [21]. This ambition resulted in extensive funding for research, professionalization and lifelong learning [22] and increasingly to the gradual interweaving of supranational and intergovernmental processes in Europe [17, 23].

Although the initial objective focused on research, development and innovation [22], Bologna also ended up having an impact on teaching and learning models. Today the structure of three study cycles, credit recognition, mobility of teachers, students and staff, national qualifications frameworks, recognition of qualifications, quality assurance and the social dimension of the European Higher Education Area are common [24, 25]. It can thus be considered that the main architectural elements of the declaration have been implemented in most European countries, translated into national legislation and regulation, despite the different policy trajectories followed by countries to achieve the objectives that depend on national idiosyncrasies, different starting points, different speeds of implementation,

different national policy agendas and different perceptions of change agents [4]. In a globalized context, major changes in Europe have inevitably aroused the attention of other regions. The European higher education space has become the standard competitor of the USA as a result of the new degree structure, reinforced by the introduction of quality assurance systems, with a positive impact on the perceived recognition of the quality of European higher education with effects on attracting international students. Several studies report changes in the organization of higher education systems along similar lines to those proposed by the Bologna reform in various regions of the world, determining greater transparency of qualifications in the USA, quality assurance concerns in Asia and greater mobility in Africa [26, 27].

As a result of these policies, higher education has changed remarkably quickly. The widespread shift from elite education to mass education has been accompanied by phenomena such as globalization, the commodification of higher education (knowledge services for potential customers), the close relationship with society, the agendas of inclusion (participation, access and equal opportunities), the digital technology revolution, the potential for internationalization, rankings and state-sponsored quality assessment mechanisms that have increased competition between institutions. In the globalized knowledge society (or knowledge economy), two particular trends are worth highlighting—internationalization and multidisciplinary approaches. The knowledge society requires skilled leaders (and manpower) able to face the many new challenges facing businesses, governments and societies worldwide, which require innovative approaches and solutions. Higher education institutions are no longer able to train graduates to address all current and emerging challenges from a single disciplinary source, so the pressure is increasing on the need for interdisciplinary approaches both at the research level and in preparation for the future (as yet unclear) jobs and leadership positions. This need also requires integrated efforts from researchers from various areas of expertise and various backgrounds, which introduces new levels of complexity at both research and training levels [4]. In a ‘supercomplex world’ [28], nothing can be understood with certainty or security or taken for granted as we are continually challenged conceptually by the contestation of the structures by which we are guided. Supercomplexity involves a fragility resulting from social change and technological transformation and, even more relevant, a greater uncertainty in the way we understand the world, how we understand ourselves and how we feel safe to act in that world, and it is expected that in such a liquid and diffuse framework change becomes even more difficult. Added to this difficulty is a university that is facing a critical time of building a new identity and that seeks to correspond to the wishes of the community, to the interests of its financial backers and to the designs of its actors.

As the university is a context traditionally very resistant to change [29], it becomes fundamental to involve all institutional actors in the discussion of what the university is and what it is for so that change becomes possible. It is in this context, and from the need to know the discourse of the actors, in this case university teachers, that we present this study which intends to contribute to a deeper knowledge about the way they conceptualize the university at present, the perceived changes and the way they experience them.

2. Method

This qualitative study is concerned with defining and deepening the way knowledge is produced and the processes involved in the construction of this knowledge [30]. In a qualitative research, the analysis of lived experience occupies a central place [31] and in the phenomenographic qualitative approach [32], which was used in this

study, it is important to understand the meaning of phenomena for the individual in his/her natural context, taking into account the meaning assigned to it [33]. Qualitative research, from a phenomenographic perspective, accepts the existence of multiple realities constructed both individually and collectively and, from this perspective, seeks to understand the phenomena from the point of view or perspective of the subjects themselves [34]. In summary, the phenomenographic study that we presented has an exploratory nature that allows analysing the subjects' conceptions, observing their variation and architecture based on the descriptions made, allowing us to understand how university teachers conceptualize the university, the perceived changes and their own experience of the phenomenon.

2.1 Participants

The selection of participants was carried out through prior contact with teachers who at the time were teaching on teacher training courses at various educational levels and who were willing to participate in the study. The choice of these teachers was due to a particular interest in knowing the perspective of teachers with greater affinity with the area of education. Of the 15 teachers who initially volunteered to participate in the study, only 10 responded.

The participants were aged between 47 and 65 years (average 52 years), nine were females and one male. Four lecturers had between 15 and 20 years of service at the university, five between 20 and 30 years and one is 40 years old. With regard to initial training, two lecturers (S5 and S7) reported training in education sciences, five in exact sciences (S1, S2, S3, S8 and S9), three of whom had specific training for teaching (S1, S2 and S9) and one reported training in the humanities (S4). Two of the teachers did not answer this question (S6 and S10).

We can also state that almost all of the teaching staff had held the doctorate degree for more than 10 years, with only one having obtained the degree more recently (S5). With regard to the courses they teach, six mentioned the first and second cycles of preschool education and basic education and four stated that they take part in the teaching of master's degrees in teaching (basic and secondary education).

2.2 Instruments and procedures

The present work is part of a broader study on university teachers' perspective on the university nowadays. Firstly, we defined a set of questions based on the literature, and then, we carried out an exploratory study with two teachers in order to check the relevance, clarity and comprehensibility of the questions. We present below the results of three questions: (i) what is a university for you? (ii) since you have been at university, what changes do you identify as the most significant? (iii) how are you currently experiencing university? The subjects were numbered from one to 10 (S1–S10) and the registration criterion consisted in the annotation of all the different statements present in the discourse of each participant as belonging to a given theme or category and not in the number of times they were mentioned by each of the participants, also obeying the principle recommended in these cases of mutual exclusion [35].

3. Results

The responses obtained from the aforementioned questions were subjected to content analysis. The results in relation to the first question are published [4] so we present them in summary form.

3.1 Perception of university teachers about the university

The perception of university teachers about what the university is emerged centred on the description of its mission being the focus placed essentially on four aspects: university as a context of production and diffusion of knowledge for society, as a space for creative and critical thinking about the world, as a multidisciplinary/interdisciplinary space and as a system centred on teaching and research. In relation to the first aspect, the university is perceived as a context for the production and dissemination of knowledge for society, a view that is in line with the 'knowledge society', although it is not possible to infer whether university lecturers are aware that in this model, as Barnett [14] states, society ends up generating its own definitions of legitimate knowledge, creating constraints at the level of 'academic freedom' or even of the 'academic community' in a more classical view of the concepts. The university perceived as a space for creative and critical thinking and about the world revealed a conception more in line with the Kantian vision that presupposes the ability to think and judge freely and independently in a context of academic freedom; however, this is not a very present vision in the teachers' discourse, which allowed us to infer that the idea of the university as a producer of great universal ideas or as a critical awareness of society is no longer present in corporate universities that operate with business models and assume agendas, values and operating principles of the society in general, making the existence of a certain ideal of the university capable of transforming the world through the thought it produces unfeasible, as Jarvis states [36]. The university seen as a multidisciplinary/interdisciplinary space indicates to us that the discourse around the need to respond to new challenges that require innovative approaches and solutions from the crossing of various disciplinary sources have entered the academy, so it is not surprising to find it in the teachers' discourse. The university perceived as a system centred on teaching and research emerged in the teachers' vision, although the introduction of the Bologna assumptions associated with the Lisbon strategy agenda has emphasized the research component as a central aspect in universities.

We also found in the teachers' discourse references to the structure and functioning of the university and, in this case, teachers highlighted more negative aspects. We find references to the very hierarchical, complex and bureaucratic structure of the institution and the perception of an increasing functionalization of teachers in a competitive and dehumanized space, marked by a hypervalorisation of bibliometrics.

3.2 Changes in the university perceived by university teachers

The perceived changes focus on aspects related to the change in the structure of education due to the Bologna Process, the greater diversity of publics, research and internationalization, new technologies, institutional cooperation, the bureaucratization of decision-making processes and the relationship with the community. In most of these themes, there is some ambivalence among teachers, as detailed below.

3.2.1 Change in the training structure

As we can see in the two examples below, teachers refer to changes resulting from the implementation of the Bologna Process related to the shortening of the duration of the study cycles (in particular the 1st cycle). The change of paradigm in terms of the teaching and learning process is also mentioned, which shifts the centrality from the teacher to the student.

The changes I identify as most significant are related to the reduction in the duration of 1st cycle courses. The hurried training of our students has robbed them of time for personal and intellectual growth. I feel that students reach the end of their training increasingly unprepared and immature (S1).

The post-Bologna transition in the way of understanding the learning process in students and the teacher's mediation function (S5).

3.2.2 Diversity of publics

The democratization of higher education, its massification, the academic mobility of students and the design of lifelong learning have determined a considerable increase and diversification of the student population as stated by the lecturers.

... welcoming diverse audiences to the University (S3).

A greater access of students from different social backgrounds, which always enriches us, giving us even more challenging jobs (S4).

3.2.3 Research and internationalization

In relation to research, there is the funding aspect that has increased and diversified in the last decades and also the pressure for publication, which is felt to be a difficult aspect to achieve. Internationalisation emerges as an important aspect at the level of cooperation networks and scientific dissemination intertwined with the research component.

The financing of research (S3).

Increased emphasis on the research component and valuing the quantity of research products without providing effective conditions for lecturers to be able to do so (at the University where I work, in particular) (S10).

The most significant aspect for me is networking, both at the research level and at the level of seminars in which we participate (S3).

3.2.4 New technologies

The new technologies are one of the aspects mentioned by teachers, the most relevant aspect being the ease of communication in the context of the scientific community and greater ease of access to knowledge.

The changes introduced by the new communication technologies, which have created new opportunities... and facilitate communication between colleagues (S9).

On the other hand, technological advancement has brought improved communications and access to knowledge (S10).

3.2.5 Institutional affiliation

From the teachers' discourse, we can infer some feeling of isolation, lack of appreciation of the work done, lack of cooperation within the institution and even institutional identification or affiliation. This view may be linked to the teacher

evaluation component introduced in the last decade and to a more competitive perspective that materializes in terms of career progression, but this is not explicit in the teachers' discourse.

The growing non 'wearing of the UÉ jersey' (of too important a part of the employees, teaching and other) (S4).

The relationship of the teacher with the institution, not the institution itself (S6).

No support for cooperative work (S7).

The responsibility to deepen knowledge to be able to promote its continuous construction in dialogue based in the institution does not seem valued (S8).

3.2.6 Institutional bureaucratization

One of the aspects most referred to by teachers relates to excessive institutional bureaucratization, seen as an obstacle to the development of quality scientific activity and perceived as a component that is over-valued by the institution.

Ultra-bureaucratization from a systemic point of view, challenging human resources to tasks that do not always match the activities for which they should be responsible (S2).

The little use of intelligence in the different areas, especially management and administrative execution, where it is always needed (S4).

The bureaucratic control that is carried out (S5).

Blind compliance with procedures and bureaucracies (S7).

Teachers are, for example, called upon to exercise their ability to disseminate courses and many hours are spent on tasks of this nature; filling out platforms and being efficient in this is valued. To be a responsible lecturer is to assume that one performs bureaucratic tasks lightly edged with scientific content (S8).

3.2.7 Relationship with the community

The university committed to society and the production of knowledge centred on social needs or problems is considered in the discourse of university teachers.

A certain openness to the environment (S3).

A greater connection of the University to the different Communities (S4).

In summary, we can observe that the changes resulting from the implementation of the Bologna process do not assume great centrality in the teachers' discourse. There is only one reference to the shorter duration of the study cycles and another to the paradigm shift in the teaching and learning model, which allows us to infer that after more than a decade the transformations resulting from the process have already been accepted and to some extent assimilated. The teachers also highlighted in their speech, in a positive way, the diversity of publics, the changes at the level of research and internationalization and the new technologies, although these are considered more

in terms of communication and access to knowledge than as transformative tools for practices. The relationship between the university and the community also appears in the teachers' speech but without much emphasis. The teachers' discourse gives great emphasis, in a negative way, to the lack of identification and institutional cooperation and to the growing bureaucratization of teaching activity, seen as harmful interference in the quality of work at the level of teaching and research. Regarding the personal experience of the university, some characteristics emerge that we will now detail.

3.3 Personal experience of university

The way teachers are experiencing their professional experience at the university reveals some apprehension and some diversity at the level of motivation. The presence of scientific autonomy is mentioned in the discourse and no teacher claims a lack of scientific autonomy. The most critical aspect in the discourse of a large proportion of teachers is the excessive amount of activity that impacts the quality of their work and also some difficulties in terms of cooperation within the institutional context.

3.3.1 Apprehension

As we can see from the examples, when referring to the university in general, teachers feel some apprehension or concern regarding the current situation.

With some concern (S1).

With concern that it is moving further and further away from what I expect from a University (S3).

With apprehension (S4).

With some apprehension (S8).

3.3.2 (De)motivation

With regard to motivation, it is present only in the speech of two teachers and in a different sense, either stating motivation in the face of permanent challenges or demotivation.

With motivation because the challenges are permanent (S2).

Emotionally I feel a great demotivation that I try to overcome (S10).

3.3.3 Scientific autonomy

We found that there is no reflection of a lack of scientific autonomy in the teachers' discourse.

With scientific autonomy (S5).

With the concern of those who consider that a University should make public opinion and not follow public opinion (S6).

In the various axes that compose it, I research, I disseminate, and I am a teacher (S9).

3.3.4 Over-activity

Teachers' over-activity in trying to reconcile the various professional aspects of teaching, research, management and extension is the aspect with the greatest emphasis in the discourse analysed, the greatest concern being the lack of time to produce more innovative and higher quality work as we can observe in the examples below.

What the lecturer is nowadays expected to do in the multiple facets of his or her activity (teaching, research, management and extension), makes it difficult to respond to all the demands in the way I would like (S1).

Teaching and learning also become, by these criteria, a mechanic that can be reproduced from year to year. There is no time and no relevance is given to the creation of innovative ways of being a teacher and a student that create a future. Research often becomes a mechanic where innovation is absent but which allows a response to the institutional criteria in force (S3).

...but also overloaded with teaching time, when it is necessary to meet the demands of a differentiated nature that are requested of a teacher at this level of education (publication of articles; research...) (S5)

... and with the impression that time for reading, reflecting, deepening, something fundamental for the ethical and intellectual commitment that should move us is scarce and undervalued. Being a good employee, bureaucratically diligent, achieving efficient publication schemes seems to be a combination valued by institutions (S8).

A large percentage of the time is devoted to teaching as the workload has, for several years, been higher than expected. Another significant percentage of time is devoted to university management tasks and community outreach activities, such as training activities. There is no time or motivation left for research or for developing research projects (S10).

3.3.5 Collaboration

Collaboration within the institutional framework appears in the discourse as offering difficulty even though it is seen as possible in more specific contexts.

At the same time I value the teamwork that is possible to develop within the department to which I belong (S6).

A space of little cooperative work, of fulfilling tasks, teaching lessons, little openness to different opinions or working methods, little incentive to the exchange of knowledge and ideas (S7).

In general, we can consider that the teachers' discourse does not reveal much enthusiasm or satisfaction in the way they are experiencing their professional activity at the university, although it is clear that they maintain autonomy and scientific freedom. The need to respond to a multiplicity of tasks required by the four aspects of their activity (teaching, research, management and extension) leads to the perception that they carry out a more superficial and mechanized work, resulting from the lack of time for deeper and higher quality work.

4. Final considerations

The university, after its transformation in modernity as an institution of higher education, has assumed a prominent place in societies and has adopted different models of organization and transmission of knowledge, resulting from the intertwining of education, society, economy, politics and culture. Contemporary times, marked by remarkable global changes, have accentuated the discussion around the university's mission and led to changes in its organization, not always understood by everyone, as the results of this study make evident. We noticed in the discourse of university teachers' apprehension toward the changes and a more pessimistic view in terms of identification or institutional affiliation, a certain feeling of isolation, lack of support and cooperation and a growing critical attitude toward the bureaucratization of teaching activity seen as a harmful interference in the quality of work, particularly at the level of teaching and research. In general, we can consider that the teachers' discourse does not reveal much enthusiasm or satisfaction in the way they are experiencing their professional activity, which seems to derive from the multiple demands and the multiplicity of tasks required by teaching, research and extension within the framework of an institution that is perceived as detached from this reality and the difficulties experienced. This perception of teachers, built in the context of remarkable changes in the last two decades, may perhaps result from the fact that teachers tend to confront a professional identity built 20 or 30 years ago, with a different reality that entails new demands. Their assessment of the current situation may result precisely from the confrontation of this idealized identity built at a time when the nature and way of functioning of the university was different, and hence the apprehension, demotivation or dislike for the new tasks that the new university requires. These results are in line with the study carried out by Fulton in 2003 in various British universities, in which some ambivalence was also found with regard to the desirability of change, translated into an oscillation between more traditional academic values and management objectives deemed reasonable.

It will not be irrelevant to the perception of lesser affiliation or identification of teachers, the more recent organization of the institutions that has become verticalised in the domain of decision making. The consequence of this change, although it has not diminished the feeling of scientific freedom or autonomy, has been progressively limiting teachers' participation in decision making, which may also be contributing to the accentuation of the feeling of isolation. On the other hand, the great technological innovation of the last two decades and the computerization of many procedures may be contributing to a very bureaucratized working perspective, seen as a negative aspect, associated with a certain pressure to respond to a large number of tasks resulting from the increasingly close relationship between the various dimensions of teaching activity. These aspects had already been revealed in the study concerning how teachers currently view the university, perceiving it as a very hierarchical, complex and bureaucratic structure and as requiring an increasing 'functionalization' of teachers in an increasingly competitive and dehumanized space.

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The world of education is experiencing a time of unprecedented change. In our modern, Covid-racked world, educational institutions and their respective delivery methodologies have been forcibly and forever transformed. Most educators realize that these transformations are likely permanent and that procedures and systems of the past will no longer be relevant for the emerging post-Covid educational environment. The future provides countless challenges and great opportunities. Those embracing the transformation will be poised to usher in a new age of educational achievement. They will certainly unleash new educational methodologies, techniques, and strategies. These institutions and educators will chart tomorrow's pathway.

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