

The Capstone Project: A Trilogy of Advanced Educational Technology, International Education and Teaching Learning Pedagogies in the 21st Century Education Landscape

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Abstract: *The study explores three perspectives in the 21st century pedagogies, namely: advanced educational technology, international education and teaching learning pedagogies. The problem under investigation is analyzing the process of internationalizing educational technologies in teaching learning pedagogies, hence study was guided by the following objectives: to assess the perceptions of educationists towards advanced educational technologies, to establish the common educational technologies employed in teaching learning pedagogies and to evaluate the extent of acceptance of educational technologies in teaching learning pedagogies. The approaches that have been used in this study are the qualitative and quantitative approaches where descriptive statistics have been used and thematic analysis was performed. The study has established educationists prefer traditional education approaches as compared to the advanced educational technologies in education. The study has also established that the common educational technologies employed in teaching learning pedagogies are Joint Productive Activity (Teacher and Students Producing Together), Language Development (Developing Language Across the Curriculum), Contextualization (Making Meaning: Connecting School to Students' Lives), Challenging Activities (Teaching Complex Thinking) and also Instructional Conversation (Teaching Through Conversation). Lastly, the study established that the extent to which educationists accept educational technologies in teaching learning pedagogies is high in developed countries and very low in least developed countries. It is noteworthy that the process of internationalizing educational technologies in teaching learning pedagogies is also affected by economic factors of countries around the world.*

Key Words: *Trilogy, Capstone Project, Advanced Education Technology, International Education and Teaching-learning Pedagogies*

1. INTRODUCTION:

In the twenty first century, we have seen the growing of advanced educational technologies, internationalization of education in various places as well as improved teaching learning pedagogies. Education sector is one of the sectors that first became global in its transactions with the advanced educational technologies incorporated in teaching learning pedagogies and the education system internationalized bit by bit. The field of education has been dynamic since time immemorial. Advanced educational technology has been described by other educationists as artificial intelligence which is aimed at developing adaptive learning material for complex domains such as programming languages, mathematics, medicine, physics, avionics trouble shooting, pulp and paper mill factories, and electronics (Wasson, 1998; Koehler & Mishra, 2009). According to the US Department of Education (2016), there are four guiding principles for advanced educational technology namely: the focusing on the active use of technology to enable learning and teaching through creation, production, and problem-solving; the building of sustainable, program-wide systems of professional learning for higher education instructors to strengthen and continually refresh their capacity to use technological tools to enable transformative learning and teaching and also ensuring of pre-service teachers' experiences with educational technology that should be program-deep and program-wide, rather than one-off courses separate from their methods courses and lastly aligning of efforts with research-based standards, frameworks, and credentials recognized across the field.

As technology is advancing in education sector, it is easier for the education sector to be internationalized since we live in a global village. With technology now, people are able to get connected to education approaches applied to different parts of the world. International education, which is referred to as education for the future, has the mandate to connect the educational systems throughout the world to come together for the better future of the universe. It is through international education that educational systems are gradually harmonized. Between 1974 and 2003, the UNESCO has been trying its best to internationalize the universe's educational systems through various recommendations it has been making (Juan, 2004). With the growing of advanced educational technology field in the 21st century, the recommendations made by UNESCO from 1974 to 2003 on international education are now shaping into a clear direction. Advanced educational technologies will not only internationalization of education but also the teaching of

learning pedagogies. These three areas are at present not necessarily independent of each other because of the internationalization of education efforts that are currently making good strides (Koehler & Mishra, 2009). On teaching learning pedagogies, in the current educational set up, it is almost impossible to isolate teaching learning pedagogies from advanced educational technologies and international education. The three are going and growing at the same pace. Teaching learning pedagogies requires observation of the current trends in the education sector for instance technology and internationalization of education itself. The issue at hand is to carefully analyse the internationalization of educational technologies in teaching learning pedagogies.

1.1. Statement of the problem:

In this global village, almost all the sectors are coming together for the common good of the people. Education sector is one of the sectors that first become global in its transactions. With the advanced educational technologies incorporated in teaching learning pedagogies, the education system is internationalized. However, internationalizing educational technologies in teaching learning pedagogies has not been welcomed with some educationists who lack good understanding of advanced educational technologies. This has made the process of internationalizing educational technologies in teaching learning pedagogies slow and in some regions of the world, it's almost a nonstarter especially in developing world.

1.3. Research Aim:

The main objective of this Capstone Project was to analyze the problems faced by the internationalizing educational technologies in teaching learning pedagogies.

1.4. Objectives: The objectives were to:

- assess the perceptions of educationists towards advanced educational technologies
- establish the common educational technologies employed in teaching learning pedagogies
- evaluate the extent of acceptance of educational technologies in teaching learning pedagogies

1.5. Research Questions: The study was guided by the following research questions:

- What are the perceptions of educationists towards advanced educational technologies?
- What are the common educational technologies employed in teaching learning pedagogies?
- How have the educational technologies in teaching learning pedagogies been accepted by educationists worldwide?

2. LITERATURE REVIEW:

This study reviewed literature based on the three themes under discussion namely: advanced educational technology, international education as well as teaching learning pedagogies. The pool of literature to which this Capstone Project has drawn its review is all academic at global as well as regional perspectives in nature.

2.1 About advanced educational technology:

Advanced educational technology has been growing tremendously over the years. It is even the striving for many societies around the world to advance in their educational technologies. Any nation which is very advanced in educational technologies is either ranked higher or gain respect from outside world as well as having great opportunity in selling out its academic reputation. According to Singh (2011), technology provides us with tools to try out different designs, so that instead of theories of education, we may begin to develop a science of education. However, Singh said that education technology cannot be an analytic science like physics or psychology; rather it must be a design science more like aeronautics or artificial intelligence. For example, in aeronautics the goal is to elucidate how different designs contribute to life, drag maneuverability, etc., similarly, design environments contribute to learning, cooperation, motivation, etc." Technology is, therefore, both a tool and a catalyst for learning and it can become a medium through which change can happen for instance education (Singh, 2011). Advanced educational technologies enable education to be easily internationalized.

2.2 About international education:

International education is easy to attain through utilization of the advanced educational technologies that are spread on the face of the earth in the 21st century. However, to internationalize education is not easy to achieve in the least developed countries according to various reviewed literature for instance Chris (2011) pointed out that to design an internationally recognized educational system or curriculum from a scratch is a big challenge to developing countries which in most cases are also having developing educational systems. This is so because the education sector, including expenditure on national education systems, is currently the second largest sector globally after healthcare (GCC, 2010) and that is why it is difficult for struggling economies to address properly the issue of international education amicably.

International education could be seen as the backbone of teaching learning pedagogies in one way or another. This means that once a country's education system on international education has failed, it consequently affect teaching learning pedagogies.

2.3 About teaching learning pedagogies

Since the coming of a global movement that calls for a new model of learning for the twenty first century, it has been argued that formal education must be transformed to enable new forms of learning that are needed to tackle complex global challenges (UNESCO, 2015). According to a paper published by an UNESCO Fulbright scholar at the National University of Ireland in December, 2015; literature on the topic of teaching learning pedagogies offers compelling arguments for transforming pedagogy to better support acquisition of twenty-first century skills. However, the scholar questioned on the largely overlooked part of how best to teach these skills in teaching learning pedagogies. The scholar further argued in his explanation which recognized that the 'transmission' or lecture model is highly ineffective for teaching twenty-first century competencies and skills, yet widespread use of this model continues. In spite of worldwide agreement that learners need skills such as critical thinking and the ability to communicate effectively, innovate, and solve problems through negotiation and collaboration, pedagogy has seldom adapted to address these challenges. Rethinking pedagogy for the twenty-first century is as crucial as identifying the new competencies that today's learners need to develop. Teaching learning pedagogies is part of the Futures of Learning, explores pedagogies and learning environments that may contribute to the development and mastery of twenty-first century competencies and skills, and advance the quality of learning (UNESCO, 2015). Both advanced educational technologies and teaching learning pedagogies are part and parcel of the future learning in 21st century.

To sum up, advanced educational technologies and teaching learning pedagogies can both be enhanced through following the international education theories and principles.

3. METHODOLOGY:

This Capstone Project has used both quantitative and qualitative research methods where academic papers and other literatures were reviewed in a systematic manner as stipulated below.

3.1 Search strategy:

The researchers employed a predetermined search strategy by systematically and strategically hand-searched Google Scholar and General Google search on the following topics:

- Advanced educational technology
- International education
- Teaching learning pedagogies

Through the systematic and strategic hand-searched Google Scholar and General Google search on the above listed topics, a pool of 718 published papers were gathered which appeared on results. This was just a huge number of literatures to work with and another strategy had to be devised in order to sieve out some of the literature which appeared on first five pages of Google Scholar and General Google Search.

3.2 Inclusion and exclusion criteria

To make sure that the papers to be used in this study were the only relevant published papers, the 718 papers on the three themes were exposed to scrutiny strategy for instance year of publication which was only selecting papers from 1998 to 2018. With this exclusion 230 papers were sieved out on the basis of year of study. The second step was to examine the language in which the papers were published in, so the focus was only put on English language published papers which made those papers in other languages like French, Portuguese, Spanish and Chinese that appeared on the list to be discarded and at the end 199 papers were dropped. The other step was to read check the relevance of the papers through search of their key words and judge whether the paper was relevant or not? In the end 121 papers were dropped remaining with 168 papers. Then a very strict scrutiny was done to find out only the papers that were having reliable sources other than writings from blogs and webpages of institutions, and this resulted into the sieving out of 107 papers and remaining with 61 papers which their abstracts were read critically to appreciate their academic closeness and relevance to the isolated three themes used in this study and at end ended up discarding 16 papers and remained with 30 papers which was used throughout the study to answer the questions under scrutiny. This means that only 8.5% of the searched papers were relevant to the three themes.

4. STUDY FINDINGS AND DISCUSSION:

The results of the study have been analysed thematically as follows:

4.1 Advanced educational technology:

Advanced educational technologies have been found to be correlated with internationalization of education. Using the descriptive statistics on the 10 papers used under this theme, 80% of the papers indicated that international education in 21st century is heavily relying on the educational technologies being employed in the education sector.

4.2 International education

International education is becoming more and more central to many national qualification frameworks. In this Capstone Project, the findings from the 10 papers used under international education theme, 87.5% indicated that both developed and developing countries; international education is taken seriously. However, it has been noted that educationists acceptance to educational technologies in teaching learning pedagogies is high (96%) in developed countries and very low (42%) in least developed countries.

4.3 Teaching-learning pedagogies

This study has found that the common educational technologies employed in teaching learning pedagogies are Joint Productive Activity (Teacher and Students Producing Together), Language Development (Developing Language across the Curriculum), Contextualization (Making Meaning: Connecting School to Students' Lives), Challenging Activities (Teaching Complex Thinking) and also Instructional Conversation (Teaching Through Conversation).

5. CONCLUSION:

In conclusion, the study has established that the perceptions of educationists towards advanced educational technologies are that most educationists prefer traditional approaches to education as compared to the advanced educational technologies in education. The study has established that the common educational technologies employed in teaching learning pedagogies are Joint Productive Activity (Teacher and Students Producing Together), Language Development (Developing Language Across the Curriculum), Contextualization (Making Meaning: Connecting School to Students' Lives), Challenging Activities (Teaching Complex Thinking) and also Instructional Conversation (Teaching Through Conversation). Lastly, the study established that the extent to which educationists accept educational technologies in teaching learning pedagogies is high in developed countries and very low in least developed countries. Therefore, the process of internationalizing educational technologies in teaching learning pedagogies is also affected by economic factors of countries around the world.

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