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The Enhancement of Teaching and Learning Economics in Higher Education: Digital Technology Approach

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Abstract

Digital technology can be observed in every aspect of our today's society. It serves as the primary instrument needed in building knowledge societies for quality education. Although, excellent teaching in higher education requires the sound knowledge of the subject and a right way of imparting the experience to the students. Economics teachers often face the problems of the best ways to help students understand the fundamental economic phenomena and the application of relevant economics terms to real-life situations. However, to overcome such issues calls for the need to discover new and appropriate teaching methods which should be in alignment with the needs and possibilities of economics students in higher education. To this effect, an appropriate pedagogical model is designed for the enhancement of teaching and learning of economics in higher education, especially in this era of the new-normal brought about by the Covid-19 pandemic which has disorganised the entire globe with unanticipated changes in every aspect of the society, including the educational sector in which the need/impact of digital technology cannot be overemphasised. The pedagogical model would lead to active, creative, collaborative, and highly engaged digital experiences for economic students in higher education.

Keywords: Economics, Digital technology, Teaching, Learning, Inclusivity, Pedagogical model

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1.0 Introduction

Teachers contend with various problems when teaching economics in high education, especially in trying to make the students understand the basic economic terms and its application to everyday life. To overcome such issues, there is an absolute need for economics teachers to discover new and appropriate teaching methods to apply which should also be aligned with the needs and abilities of the students (Vasiliki et al., 2016; 2015). For the study of economics to be highly effective in higher education, there is a need for the understanding of the subject in general and at the same time, employ the required digital tool to enhance students learning. Economics, being a social science, deals with how firms, governments, individuals and economies make choices on the allocation of scarce resources in the satisfaction of unlimited wants. Generally, economics is divided into two major branches: microeconomics and macroeconomics (Vasiliki et al., 2015). Establishing a new pedagogical method which is possible in the design of unique teaching and learning method is highly essential (Vasiliki et al., 2016). The teaching standard and learning in the university at various levels has also attracted lots of attention across the globe (Devlin and Samarawickrema, 2010; Devlin, 2007a); especially in this era of the new normal, which emanated due to the COVID-19 pandemic that has ravaged the entire universe and has affected and changed every aspect of human life, including the educational sector.

McAleese (2014) opine that one of the vital allies for higher education is digital technology which is very important in enhancing quality teaching and learning that would ultimately promote diversity in the higher education, expand life-long learning opportunities and support continuing professional development of the higher education sector. This would lead to tremendous transformation in higher education. The study maintains that digital resources are indeed excellent tools that help in connecting the students with their teachers as they are utilised to enhance teaching and learning in higher education.

However, Nicora, (2018) referred to digital learning as the use of any form of smart tool which can enhance teaching and learning in higher education. Although, the best way digital technology could be employed to support outstanding teaching in higher education, differ across various disciplines which in turn depends on the type and level of courses (Davies, 2017). More so, digital transformation is emerging as a tool of change in the modern world even as the oil and gas industry has also played a significant role in the economic transformation of the world (World Economic Forum, 2017).

Consistently, Lai, (2011) also outlined eight critical competences for Lifelong Learning that every learner should be proficient in, one of which is digital technology competence. Consistently, Spante et al., 2018 maintain that digital capability is underpinned by digital literacy which is based on five areas and the need to make substantial investments in digital skills enhancement for competitiveness and economic growth. It is also a strategy for the digitisation of

education as it aims at availing the students in higher education the opportunity of developing the ability to create and use digital technology in higher education and to understand how its effects on every aspect of the economy. Hence the need to develop digital tools in higher education which would enable personnel working with children and students to acquire and develop digital competence during their education career and through various trainings.

In general, economics entails the acknowledgement of the reality of scarcity while figuring out the best way of producing resources in the society efficiently. The role of digital technology in this regard would be highly beneficial in higher education and at the University of Abertay in particular, given the factors that affect the economics of oil and gas projects which lies on the level of information accessible to individuals (Vasiliki et al., 2015).

In a survey conducted by the higher education students in 2016, more than seven thousand students in higher education confirm that when used efficiently by the teachers, digital technology immensely enhanced their learning. The students themselves maintained that they appreciate constant access to the internet facility, visual learning environments, slides and lecture notes, online activities for submission of assessments.
More so, (Englund et al., 2017) maintained that digital technology in higher education has the possibility of transforming teaching and learning. Although, there are still a few pieces of evidence about the long-promised revolution in higher education. The need for digital technology is indeed growing, and it is imperative to develop strategies which would be supportive in the implementation of digital technology in higher education for the enhancement of students teaching and learning.

Nevertheless, Gros and Lopez, (2016) reveal the need for the establishment of dialogue among teachers and students in any educational reform. It would serve as a mediation while giving the students the opportunity of providing information regarding the needed technology, the pattern of learning and the best environment that is suitable for their academic needs.

Similarly, Seale, (2009) maintains that students' feedback would have a transformative impact on the development of the academic curriculum development. Also, students can contribute as co-designers regarding pedagogical advice and consultancy, learning, teaching and curriculum design (Healey, 2014). Girardi, (2012) on the other hand advocates the use of proverbs from around the world to teach economics.
However, Krumsvik, (2014) opine that teachers must understand how, when and why digital technology must be implemented in higher education. More so, teachers should continually acquire new skills, new ways of teaching to ensure students understand the subject clearly, ability to employ technological and pedagogical approach in teaching both on/off-campus. The teachers also require the use of excellent communication and collaborative skills. (Benson and Samarawickrema, 2009).

Essentially, Ashby (1967a) revealed four revolutions in teaching and learning in higher education using digital technology. The first revolution took place when the training of young school children shifted from their homes to schools and from parents to teachers. The second revolution emerged when the written word was adopted as a tool of education, while the third revolution originated with the invention of books and printing press. The beginning of electronics and the development in communication marked the fourth revolution.
Considering the above, however, economics as a social science discipline needs to be digitally designed as part of the pedagogical approach in higher education to support students in the light of the possibilities offered by the present-day technology (Davies, 2017).

However, the main purpose of this paper, therefore, is to evaluate the contending issues surrounding the teaching and learning of economics in higher education and to design a potential pedagogical model which would enhance the teaching and learning of economics in higher education, using the digital technology approach. It would enhance the student's skills and learning ability, create a better learning outcome for the students, enable the teachers to focus on impactful and evidence-based teaching and learning methods which would also help the students to be employment ready for research purposes and further studies in the field of economics.

2.0 The Justification for Advocating New Ways of Teaching Economics in Higher Education

Economics as social science and a discipline tends to explain the world and its complex nature. In fact, economics is present in virtually every part of our lives. It is the more reason why lecturers need to assist economics students in understanding those complex relationships existing among economic variables. Hussein, (2017) posits that economics as a subject is very rigid and difficult to understand and as such requires to be taught using effective methods in order to help in building learners' analytical skills, develop students critical thinking ability, improve their systems and communication skills. More so, in the light of recent global developments, it becomes imperative to revisit the way economics is being thought in higher education and this regard also, the impact of digital technology cannot be overemphasised (Ojo and Jeannin, 2016). However, their study and other related research such as Inman, (2014) and Gerardi, (2012) suggest that economics students in high school are not being taught effectively and call for a shake-up of the way this subject is taught in higher education.

Accordingly, the need for a more excellent learning outcome in higher education is an essential part of quality teaching. Institutions also need to ensure that the quality of education being offered to students needs to be adequately aligned with the teaching and learning innovations and at the same time, be able to meet both present and future employment requirements while helping in the development of pedagogical practices (OECD, 2012). While teaching economics in higher education, there is a need for teachers to clearly demonstrate the importance of understanding basic economic principles to policymaking analysis. There is also a need for economics teachers to keep up with the changing course content and changing technology (Colander, 2004).

However, in a journal titled: "A new teaching methods for teaching economics in secondary school", Vasiliki et al., (2016) pointed out that economics teachers often face the problems of the best ways to help students understand the fundamental economic phenomena and the application of relevant economics terms to real-life situations. They advocated the need for the discovery and implementation of new teaching methods, compatible to students needs and abilities, which in turn should contribute to the enhancement of teaching and learning. More so, there are still very few studies which aim at discovering ways of enhancing the teaching and learning of economics in higher education.

Besides, Mearman, (2013) maintained that teaching practice develops through trial and error, as such, teachers need innovation in the teaching and learning of economics in higher education which could be based on students' achievement or feedback. Mearman further argues that there are serious limitations with the dominant approach in economics education, which need to be revisited. More so, there is a serious concern that the teaching of economics in higher education was based on the traditional chalk and talk teaching technique and as such, lagging behind other disciplines in implementing instructional innovations which could enable economics students to participate actively in the learning process (Katz and Becker 1999; Becker 1997; Becker and Watts 1996).
However, Ojo and Jeannin, (2016) reveal that lecturers understanding of the discipline is not enough; instead, they should map out the best ways to teach and assess the students in higher education. They also posit the need for the pedagogical development of the economics faculty and economics curriculum, which need to be aligned with real-life contexts, retaught in line with the on-going debates of digital technology. There is also a need for the lecturers to undergo adequate training, engage proper learning materials which would help the students to unpack the complexities of the real world.

Consistently, Devlin and Samarawickrema, (2010) and Kreber, 2002 contend that excellent teaching requires a sound knowledge of the subject while excellent teachers understand the best ways to motivate and assist students to overcome any form of learning difficulties. In line with the above, Saroyan et al., (2004) also advocate that teaching in higher education involves good understanding of both the discipline and how to transfer the knowledge easily to the students for more fundamental understanding.

Nevertheless, when it comes to digital technology, online learning development platform offers the possibility of making the economics discipline very attractive. It provides the students, opportunity to learn from outside the classroom. The adoption of a flipped classroom pedagogy would also avail the students of the privilege of learning via online materials. More so, the flipped classroom pedagogy would also keep the students engaged with the richness of economic analysis (Ojo and Jeannin, 2016).

Consistently, Inman, (2014) contend that economics students from over nineteen countries have joined forces to call for an overhaul and drastic change of the ways economics as a discipline is being taught in higher education. The study further contends that the dominating free-market theories are harmful and unable to confront the financial stability, climate change issues and food security. It also limits the ability of the world to contend with all the 21st-century challenges.
Also, in the letter to the Guardian, (2014), the International Student Initiative for Pluralist Economics (ISIPE), during the first global demonstration against mainstream economic teaching argues that the discipline of economics is failing the broader society since evidence from other disciplines were ignored and need to be revisited. Also, the university students from Britain, the United States, Brazil and Russia who formed the forty-one-protest group as they believe that research, teaching and learning of economics in higher education is still narrowly focused. The students advocate that the economics curriculum should be renewed, enhanced and subsequently create solutions to societal problems. Furthermore, some students from Manchester, London and Cambridge also protested the academics who were accused of acting as cheerleaders for the financial models which triggered the global financial crisis of 2007/2008. Also, the economics undergraduates at the University of Manchester formed the Post-Crash Economics Society and have recently issued their strategy for reforms which were endorsed by the current chief economist, Andy Haldane of the Bank of England (Inman, 2014).

Moreover, Ongeri, (2009) reveal that the quality of teaching economics as a discipline has deteriorated because it was consistently ranked the lowest in the United States by students in the universities and colleges. The study provided a comprehensive survey aimed at explaining the reasons for the poor performance of economics students in colleges and universities and presents a proposed strategy to reverse the trend.

Smirnova, (2015) contend that there is an improvement in the learning activities of students when the content of the discipline is understandable to the teacher when the teachers are adequately trained and make use of high-quality curriculum materials. Consistent with the above, Coe, et al., (2014) found a positive relationship between teachers understanding of the subject and the students learning the outcome.

Nevertheless, Oregon State University found that economic issues play an essential role in determining whether students that enroll for a four-year course would be able to graduate within six years and that graduation rates could be raised by supporting both the students and the institution.

Basically, from all the related literature reviewed, it is highly evident that there are a wakeup call and urgent need for the enhancement of the teaching of economics in higher education. More so, there is need for every higher education to be taught in such a way as to be aligned with the university's strategic plans and objectives which aims at consistently developing an innovative learning environment, capable of providing adequate information to the students, to inspire students and staff in the achievement of their full potentials while using the acquired knowledge and expertise to impact on the world at large (Abertay University's Strategic Plan, 2015-2020).

3.0 The Impact of Digital Technology in Teaching and Learning Economics in Higher Education

Generaly, digital technology is undeniably altering teaching and learning in higher education. The required transformation in higher education is possible with digital technology. It helps tutors in creating a flexible, engaging and interactive teaching and learning. As an instrument of change, digital technology enables teachers to have a different set of pedagogical approaches to support the learners in becoming more inclusive (Thomas and Morris, 2017). Besides, Devlin and Samarawickrema, (2010); Hannah and Silver, (2000) and Devlin, (2007a) also posit that technological innovation and effective teaching in higher education are highly correlated given that technological advancement has shown significant impact on teaching and learning. The digital technology could assist teachers in reaching a large number of students and enabling them to manage the complexity and diversity inherent in most higher education teaching and learning settings. Digital technology would actually contribute towards the realisation of transformative goals in higher education, connecting the students with their teachers, thereby increasing the quality of learning related communication in higher education (Moore, 2014).

Digital technology is embedded in almost every aspect of the society, and as such, there is need to understand which technology to be employed into what specific educational purpose as well as knowing the best way to use such technology in the society. For more than forty years now, evidence from research has shown that there have been consistently positive benefits of the impact of digital technologies on teaching and learning as there is a need for careful thought in using technology for best effect (Higgins et al., 2012).

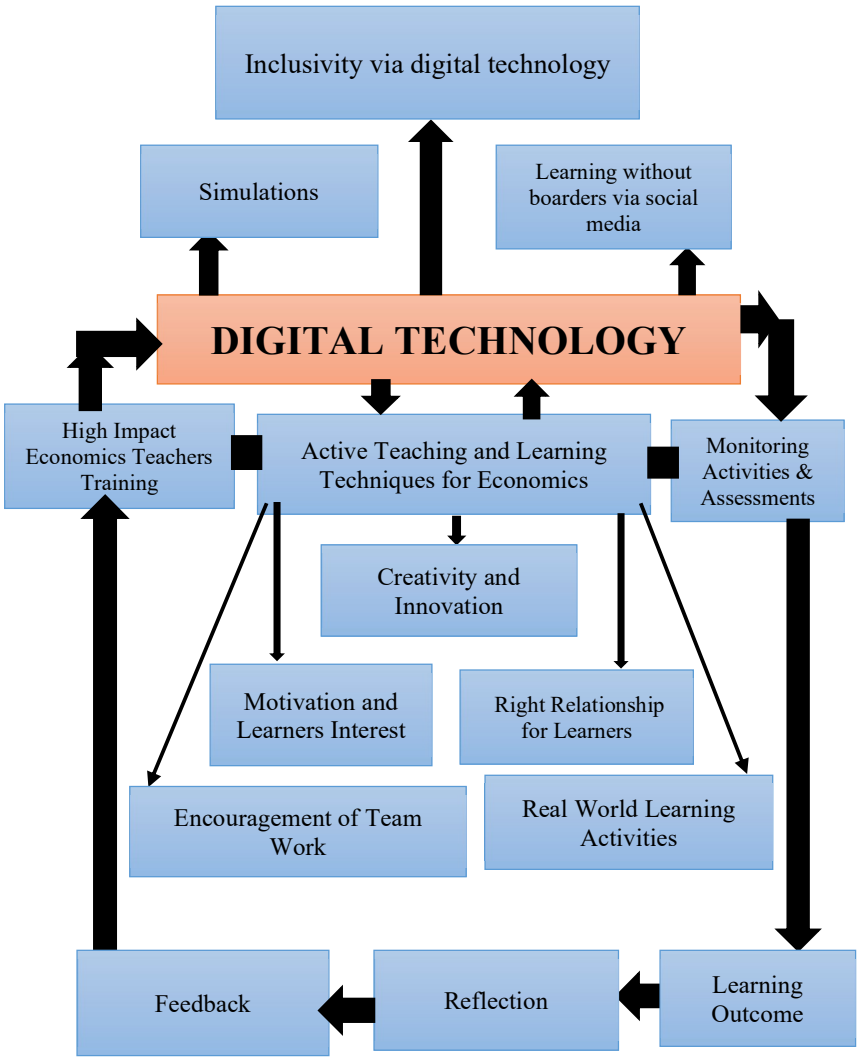
Many empirical studies, such as Shah, (2013) and Higgins, et al., (2012) have shown that digital technology serves as the primary instrument needed in building the knowledge societies for quality education. It also helps in the rethinking and redesigning the educational systems by facilitating access to the required resources and services. Technology innovation is highly essential as it brings about positive change in higher education. However, digital technology also offers the students the possible flexibility, which improves the students overall experience irrespective of the pedagogical changes. It also has the potential of supporting collaborative learning and assessment practices. Web tools such as social networks, blogs and wikis also increase the teaching and learning process (University of Bristol, 2013).
Consistent with the above, Tshuma, (2016) presented a collection of studies from Rhodes University, which presents some selected digital technologies aimed at addressing challenges involved in teaching and learning in higher education. The case studies reveal that the selection of the learning technology mainly depends on the learning challenge, irrespective of the discipline. The study also emphasises the utilisation of digital technology as one of the tools in the learning process. More so, teachers in higher education should still plan and facilitate learning with digital technology irrespective of student's technological abilities and the wealth of information that are available via online (Laurillard, 2013).

Additionally, digital technology makes tremendous contribution in bringing about great opportunity, equity and in the support of teachers through professional development, good leadership and resource improvement. Teaching and Learning of economics can also be enriched through digital technology, which ensures that learners develop a high level of special digital skills, thereby closing the attainment gap in this present digitised era. More so, team-building would play an essential role in unfolding the potentials of digital technology in the teaching and learning of economics in higher education (Swinney 2016).

Nevertheless, digital technology should not be used as a replacement for standard teaching. Instead, it is best used as a supplement. More so, it is more useful to make a collaborative use of digital technology than to use it individually. As a catalyst for change, digital technology should be used in higher education in a way to bring about improvement, effectiveness and efficiency in teaching and learning practices (Higgins et al., 2012). Overall, the impact of digital technology in teaching and learning economics in higher education cannot be overemphasised and would therefore bring

about a total transformation in the education sector.

Fig. 1.0 The Pedagogical Model for the Enhancement of Teaching and Learning of Economics in Higher Education



Source: Author's Design

The above is the proposed pedagogical model for the enhancement of the teaching and learning of economics in higher education. Vasiliki et al., (2016) in their article titled "A New Teaching Method for Teaching Economics in Secondary Education" also advocate that it is highly essential to establish an excellent pedagogical model which would help design a good teaching and learning methods for economics students.

Development of student learning is the goal of any pedagogy since it deals with any activity which is designed for the enhancement of any learner's ability (Westbrook et al., 2013). It is imperative to note that there is no fast and hard rule approach to pedagogy; instead, teaching approaches work differently for different people and in different contexts. All we need do as teachers are to critically think and reflect on knowing if the technique employed in teaching and learning is working effectively as it ought to or not while mapping out possible ways for the improvement of the learning process for an effective outcome. The impact of this outcome should also reflect, not only in higher education but also in the larger society.

Nevertheless, for the enhancement of the teaching and learning of economics in higher education, a pedagogical model is designed to facilitate the process as shown above. The starting point entails the high impact economics

teachers training; teaching and learning would be enhanced more when the teachers have an adequate understanding of the subject and are trained on the best ways to disseminate the acquired knowledge to students using high-quality curriculum materials (Smirnova, 2015), the use of digital technology in this regard cannot be overemphasised. Digital technology would enable the students to learn without borders via social media and through simulations, thereby enhancing the students' learning capability. Active teaching and learning techniques for economics would also improve through digital technology, which would, in turn, bring about more creativity and innovation, the motivation of students and learners' interest, creation of right relationship for learners. It would further lead to the encouragement of teamwork for maximum productivity and improvement in real world learning activities. More so, inclusivity is also enhanced through digital technology as it supports and enhances the learning capability of students who have special learning needs (McGlynn-Stewart, et al., 2017). The educators in that study revealed how digital technology combined with the developed technical and pedagogical strategies yielded tremendous and high learning outcome through active engagement, collaborative and highly creative experiences of the students involved in the study.

Consistently, mobile devices are advantageous devices for the enhancement of inclusion in our higher education. It is important to note that quality teaching and learning are based on sound relationships which are built on mutual trust and respect. More so, teaching and learning activities are designed to connect real-world problems to economics student's experiences which will, in turn, transform the student's focus. (Scott, 2015) Maintain that the use of social media in the teaching and learning of economics promotes pedagogical innovation. Also, motivation enhances teaching and learning as it helps in the development of the learner's interest and also to have confidence in their ability to execute any given task. Creativity and innovation are also very vital in our knowledge societies as it exposes the students to many new ways of carrying out different functions for the beneficial outcome. Inclusivity is another crucial part of the pedagogic model, which aims at the inclusion and safeguarding of those who tend to suffer marginalization and are vulnerable to exclusion during the process of teaching and learning. There is no form of discrimination, as everybody is given equal opportunities to learn. Another vital part of the model is reflection and feedback, which provides both students and teachers appropriate guidance on the best way to improve teaching and learning. Feedback improves assessment performance and enhances both teaching and learning in higher education (Race, 2001). On the other hand, reflection deals with a form of mental activities which aims at achieving the anticipated outcome (Boud and Walker, 1998).

4.0 Conclusion

Economics, as a social science, is present in virtually every aspect of our lives and tends to explain the world and its complex nature. The literature reveals that economics is a very rigid subject which requires to be taught using effective methods to help in building learner's analytical skills, develop students critical thinking ability as well as improve their systems and communication skills. It is pertinent to note that economics students in high school are not being taught effectively, and that calls for a shake-up of the way this subject is taught in higher education. Besides, teachers contend with so many issues when teaching economics in higher education, especially in terms of trying to make the students understand the basic economic terms and its applicability to everyday life. It has, therefore, been established that there is an absolute need for lecturers to assist economics students in understanding those complex relationships existing among economics variables through the use of digital technology in higher education. However, to overcome such issues encountered in the teaching and learning of economics in higher education, an appropriate pedagogical model has been designed as shown in figure 1.0 above, for the enhancement of teaching and learning of economics in higher education. The pedagogical model would lead to active, creative, collaborative, inclusive and highly engaged experiences, thereby enhancing the teaching and learning of economics in higher education. Such an effort would further contribute towards the realisation of transformative goals in higher education, connecting the students with their teachers thereby increasing the quality of learning-related communication in higher education

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