A RESEARCH ON THE ACCEPTANCE OF EDUCATIONAL SUPPORT TECHNOLOGIES IN DISTANCE LEARNING PROGRAMS AMONG UNIVERSITY STUDENTS

Zeng Yan[1], Seah Siokpeh[2],
[1]Faculty of Education and Liberal Studies, City University Malaysia, 46100 Petaling Jaya, Selangor, Malaysia.
[2] Faculty of Human Development, Sultan Azlan Shah Campus, Universiti Pendidikan Sultan Idris, Proton City 35900, Perak Malaysia

ABSTRACT –This study investigates the acceptance of distance education support technology among college students. 200 students from Mianyang Teachers' University in Sichuan Province, China, were surveyed through questionnaires and interviews. The data were gathered through a combination of questionnaire surveys and interviews and analysed using SPSS to examine the utilisation of technology by students during the teaching and learning process. Additionally, this study aimed to explore the factors influencing how technology is employed to support teaching and learning and investigate student attitudes and perceptions regarding its use in education. The study is based on a framework that addresses students' adoption, perception, and use of technology in open-distance learning. It attempts to connect the theory of transactional distance with the technology acceptance model (tam).

INTRODUCTION

Open and Distance Learning (ODL) has become popular in most China's higher education institutions because of the current trend that has seen an increase in enrollment for university education, overcrowding in the limited residential facilities, and the requirement for advanced learning (Paul & Tait, 2019). The quick global development of information and communication technologies and platforms significantly impacted this transformation. Many organizations have recently invested considerably in their technical infrastructure (García-Peñalvo, 2021). Technology integration in the curriculum is becoming more critical due to paradigm shifts in providing teaching through advanced technologies (Yurtseven, 2020).

The scale of new technologies that have emerged over the last ten years has also significantly impacted open and distance learning strategies (Ali, 2020). According to Elumalai (2020), numerous higher education institutions are creating distance learning programs to solve the problems of rising enrollment and a shortage of physical space. Al-Fraihat et al. (2020) assert that people involved in other daily activities that are likely to prevent them from attending school regularly now have access to high-quality education at a meagre cost due to the integration of technologies in distance learning. Moreover, in online education, technology has been praised as a factor that maximizes the utilisation of limited available human and physical resources and facilities utilised by these recognized institutions (Doghonadze, 2020).

The term "e-learning" denotes using technologies in educational settings to enhance academic achievement (Al-Abdullatif & Gameil, 2021). Because it includes both teaching and learning, education is crucial to achieving a sustainable competitive advantage in the modern technology era by utilising technology to enhance student learning; ICT improves educational standards (Kant et al., 2021). E-learning has several benefits for schools. The ability for students to access course materials from any time and any place is a considerable advantage of adopting online learning. Active student participation in learning is also encouraged. For distance education students, audiovisual and audio communications systems, personal laptops and desktops, the Internet, and PowerPoint slides produce a compelling learning environment (Basaran & Yalman, 2020).

PROBLEM STATEMENT

In overcoming challenges, most institutions have up-to-date computers and internet connectivity, among other pieces of modern technology, and they ensure that technology will be used to help teaching

and learning without any problems. Technology integration into teaching and learning is a complex process that depends on pedagogical principles, attitudes, curriculum requirements, and physical facilities (Ananga, 2020). Technology must be adjusted to fit how students learn and what they will be taught (Damşa, 2021). Even though both students and professors recognise the significance of technology, adoption and usage issues still exist regarding learning and teaching (Zuo et al., 2021). Since many students are becoming familiar with technology terms, according to Zuo et al. (2021), they may not yet be prepared or capable of using them.

According to much research, students struggle to use technology due to various challenges or constraints (Milheim et al., 2021). Suppose these challenges and barriers, such as a lack of computer literacy, a lack of time, and accessibility to technological tools, are not addressed. In that case, technology might significantly impact teaching and learning in traditional and alternative (open) educational systems.

Despite the widespread use of technology in learning and teaching, particularly in developing countries, the evidence for its effectiveness is empirical. There has not been much research, particularly on how Chinese teachers and trainers have affected students' learning and how technology facilitates learning in ODL. The lack of theoretically sound and in-depth research has been recognised by many researchers as a significant problem that needs to be solved (Kant et al., 2021).

Adopting technologies in learning and teaching is a complex process that isced by teaching ideals, attitudes, curriculum needs, and physical infrastructure, affecting how quickly it is adopted (Kabir et al., 2021). Due to a perceived lack of technical pedagogical understanding both among students and instructors, the majority of distant learning programs in China appear to be failing (Wang et al., 2020).

Students' attitudes and perceptions of the acceptance of technologies in learning and teaching are directly influenced by how they are taught, the instructional methods used, the lecturers' expertise, and what they are taught, requiring ongoing changes to and adaptations to technology (Zimmermann et al., 2021). The use of technologies in teaching and learning at the university may also be impacted by other characteristics, such as gender, age, computer technology, and individual desire and commitment to participate in the student's acceptance of technology (Lakhal & Khechine, 2021). This may support the previous claim that most distance education programs in China fail due to students' and lecturers' lack of technical and pedagogical competence (Tsegay et al., 2022).

Although many higher educational institutions, including Mianyang Teachers' College, still have trouble adopting and utilising technologies for teaching and learning, students recognise their significance (Ma, 2022). As a result, there is insufficient assistance and direction for students and lecturers to change from contact to e-learning. As a result, this study establishes the scope and acceptance of educational support technologies in distance learning programs at Mianyang Teachers' College.

LITERATURE REVIEW

An Overview of Literature Review

It is essential to place this study in its proper context to investigate how technology is utilised in distance education. This is because the subject of this study is students who participate in remote learning. Several variables, including distance, expense, and employment obligations, can hinder access to education. For a long time, technology in distance learning has been used to circumvent these barriers. The traditional or traditional meaning of "remote learning" is gradually shifting due to the need for new approaches to solving challenges related to educational or lifelong learning requirements and developments in technical capabilities.

According to Yehya (2020), distance education is a paradigm that comprises teaching and learning activities in a learner's cognitive, psychomotor, and practical domains, as well as other possible domains. Adults who are socially and professionally responsible find it appealing because non-contiguous conversations characterise it and may be done whenever and anywhere (Rudenko et al.,

2022). As a result of advancements in communication technologies, there is now a more significant opportunity for contact.

E-learning has emerged as a necessity to solve the challenges brought about by the expansion of information technology and the potential of this sector to broaden people's access to information. The enormous effects that information and communication technology have had on education are still being studied, and researchers are always looking for new ways to get students' attention and design learning environments that are engaging while still being personalised to motivate students to pursue a learning path that lasts a lifetime (Shemshack & Spector, 2020).

As a result of the fact that e-learning was initially implemented in businesses located in industrialised countries, the implementation patterns of those countries are currently being used as a standard. When adopting e-learning, different geographic regions and communities may or may not face the same obstacles and be affected by the same elements prevalent in more developed countries (with varying intensity or importance). Therefore, when employed by other countries and communities, the existing implementation patterns may not be utilised in all phases and procedures. This is because of the preceding sentence. Consequently, the challenges associated with implementing e-learning and the motivating factors behind its acceptance may differ from one instance to the next (Teo et al., 2020).

The use of technology that facilitates e-learning is expanding at a rapid rate throughout educational institutions all over the world. Like many other countries, it has initiated research into implementing e-learning in public educational institutions (Eze et al., 2020). Despite the excellent quality of life it provides for its citizens, it is falling behind other countries due to its low levels of innovation and output (Erdin & Ozkaya, 2020). Unquestionably, e-learning has a significant part to play in many of these areas, which makes it imperative for the government and businesses to collaborate on efforts to modernise and improve the skills of their participants (workers, students, customers, etc.). This is one of the areas in which e-learning has a significant role to play.

It will emphasise the problem researchers face and outline the main factors determining whether or not e-learning is accepted worldwide, explicitly focusing on China. Consequently, the research topic will be presented in this chapter, as well as an acknowledgement of the numerous definitions of e-learning. In addition, a brief history of e-learning will be presented, along with a discussion of its key benefits and drawbacks. After that, there will be a comprehensive review of the factors impacting the adoption of e-learning in general and specifically, with the primary obstacles being identified. In addition, the fundamental challenges facing the implementation of e-learning will be compared with those confronted in industrialised nations to assess and elucidate the various communities' respective objectives. The key models and theories established and adopted will be provided for estimating and characterising the implementation, acceptance, and usage of new technologies or services by persons. These models and theories have already been established.

ANALYTICAL FEATURES OF A LITERATURE REVIEW

The Technology Acceptance Model (TAM) (Davis, 1986) is commonly employed in investigations of users' technology acceptance (Cigdem & Topcu, 2015). The model aims to explicate user attitudes toward technology adoption (Chang et al., 2017). In addition, earlier research has expanded the TAM model, resulting in several external influences (Abdullah & Ward, 2016). Abdullah and Ward (2016) did a meta-analysis. They discovered that subjective norm, experience, perceived enjoyment, computer anxiety, and self-efficacy are the TAM model's most frequently employed external components. In addition, they noted that experience is the fifth most commonly used external factor in e-learning.

Previous research utilising experience as an external factor of the TAM model examined various types of e-learning users (Purnomo & Lee, 2013), students (Williams & Williams, 2010), students and educators (Martin, 2012), and teachers (De Smet et al., 2012). In addition, previous research has utilised a variety of experiences, including internet experience (Premchaiswadi et al., 2012), technology experience (Teo et al., 2017), computer efficacy as a user's prior experience (Waheed & Jam, 2010), and online learning experience (Liu et al., 2010). However, a few studies have used high school e-learning

experience as an external variable to analyse university students' desire to use e-learning. In addition, many prior studies studied the effect of system quality on the behavioural intent of students and instructors to adopt e-learning. Previous research demonstrated that system quality has a substantial influence on perceived usefulness (Fathema et al., 2015), attitude toward utilising (Fathema & Sutton, 2013), and behavioral intention to use (Fathema & Sutton, 2013).

At the local level, the use of technology has not resulted in the widespread changes in teaching methodologies that were initially hoped for due to students' attitudes toward distance learning. This is another gap that was found in the studies that were reviewed. Although the use of technology has been praised by a variety of stakeholders around the world, this is not the case at the local level. In the context of China, this study will investigate the factors influencing the adoption of new technologies and provide actionable advice for reducing those factors.

METHODOLOGY

Research Approach

The two reasoning methods, inductive and deductive, cover many topics. The former is a collection of strategies focused on applying rigorously testable theories in real-world situations to determine their validity. In contrast, deductive reasoning is more constrained in scope and focused on confirming or testing hypotheses (Lancaster, 2007). Deduction, which is viewed as a procedure where researchers arrive at a reasoned conclusion by applying the logical generalisation of a given fact, is crucial. Alternatively, through inductive reasoning, researchers observe specific phenomena and, in mind of such, establish sound conclusions, ultimately achieving the logical identification of a general proposition based on the phenomena observed. Inductive reasoning is a reasoning approach where the bases of an argument are recognised as supporting the conclusion but do not ensure it (Sekaran & Bougie, 2016).

Deductive reasoning starts with ideas and progresses to empirical facts, as in this study. On the other hand, the inductive technique starts with actual evidence and moves on to theoretical literature to develop a hypothesis. Once a theory has been created, the researcher might use a deductive method once more to verify the theory. Based on the above arguments, this research built its hypotheses using a deductive methodology after reviewing the literature. To validate the hypotheses, appropriate statistical tests are then used to test them. This study employed a mixed-methods technique. Thus, quantitative and qualitative methodologies will empirically validate this research's conceptual model.

Data Collection

The participants in this research will be the university students of the Mianyang Teachers' College. The purposive sampling technique will be employed in this research study, and the total sample size of the current study is 200 university Students. The researcher distributed the questionnaires randomly among the purposefully intended participants in the morning, allowing them enough time to answer the questions in the questionnaires.

Measurement/Trustworthiness

The validity of the instruments employed in this study was already assessed by Mailizar et al. (2021), and the evaluated value was above the threshold of 0.7. Cronbach's alpha value measures a scale's internal consistency reliability. Further, it refers to the fact that the researchers would get similar results if the questionnaire had been repeated soon afterwards with the same workers (Tavakol & Dennick, 2011). The internal consistency reliability of the instruments employed in this study was already assessed by Mailizar et al. (2021), and the evaluated value was above the threshold of 0.7.

DISCUSSION

This study mainly synthesises the Technology Acceptance Theory of Reasoned Action through a literature search. And Theory of Transactional Distance. Innovation Diffusion Theory (Adoptions of Innovation Model) (Baraghani, 2007), According to the Technology Acceptance Model (TAM),

Adoptions of Innovation Model, Adoptions of Innovation Model, 10 Enhanced Technology Acceptance Model and other models deduce that PE, PEU, FC and CS will affect AUL with AT as the intermediary variable. Therefore, a framework for accepting education support technology in college students' distance education projects is established.
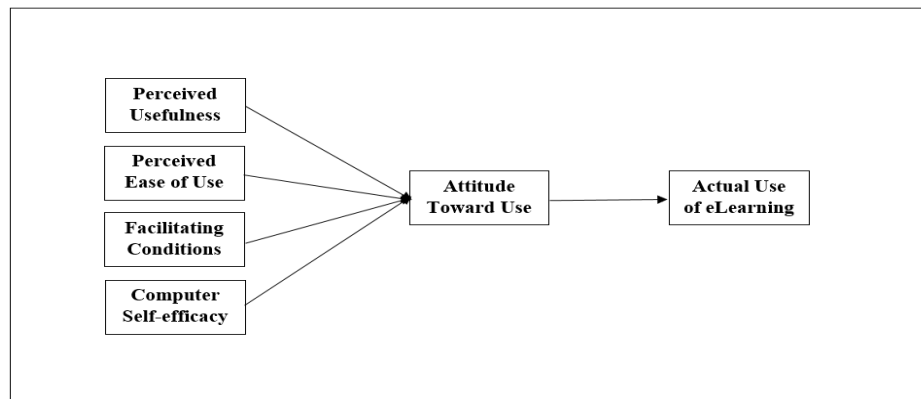
CONCLUSION AND IMPLICATIONS

With the increasing digitization of the world, traditional higher education is increasingly turning to distance learning. While overcoming the limitations of conventional education, this trend is also driven by on-campus enrollment, off-campus enrollment, and adult students (Zimmermann et al., 2021). Mianyang Normal University has established a distance and open education system for this need. The system was set up to provide learning opportunities for those who aspire to higher education but are unable to invest the necessary time, to provide alternative and innovative education that is not limited by time or space, and to give individuals the opportunity to learn at their own pace and to provide much-needed qualified talent for development (Schwartz, 2020). With this background, college students' acceptance of education support technology has become an important development direction. This study aims to establish a correlation framework between PE, PEU, FC, CS and the acceptance level of education support technology to facilitate subsequent data collection and analysis and provide specific data support direction for Mianyang Normal University and higher education in the Sichuan region of China.

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