Organization Learning via Information Technology Teaching for Foshan University of Higher Education

Peng JUN LIANG
Learning Technology and Innovation Division, Faculty of Technical Education, Rajamangala University of Technology Thanyaburi, Pathum Thani, 12110, Thailand
Peng_j@mail.rmutt.ac.th, ORCID:0009-0003-1514-9676

Thosporn SANGSAWANG* ***(Corresponding author)***
Educational Technology and Communications Division, Faculty of Technical Education, Rajamangala University of Technology Thanyaburi, Pathum Thani, 12110, Thailand
sthosporn@rmutt.ac.th, ORCID:0000-0002-7926-6949

ABSTRACT
The objectives of this study were to (1) investigate the efficiency of Organization Learning via Information Technology Teaching for FOSHAN University of Higher Education, (2) compare students' achievements before and after learning through Organization Learning via Information Technology Teaching, and (3) examine students' satisfaction with of using Organization Learning via Information Technology Teaching. The study successfully collected 356 valid surveys from Foshan's vocational schools, resulting in a total of 370 questionnaires and a response rate of 96.2%, providing valuable insights into the reality of the situation in these institutions at FOSHAN University of Higher Education in China, derived through purposive sampling technique. The instruments used for collecting the data were (1) The questionnaire to enhance learning achievement, a student's pre-test and a post-test for FOSHAN University of Higher Education students., and a teacher satisfaction form. The data analysis statistics were percentage, mean, standard deviation, and the t-test for the dependent sample. The research findings revealed that the survey data from the Guangdong Vocational College of Environmental Protection Engineering revealed that most teachers were female, with a higher proportion of females than males. Most teachers were between 30-40 and 40-50, with a higher proportion of those between 50 and 60. The survey also revealed that 59% of the teachers held postgraduate degrees, while 14.6% held doctoral degrees. Most teachers at the college were lecturers, with 46.6% holding the lecturer position and 41.3% being associate professors. The proportion of teachers at the college was 28.4%, compared to 21.3%. The dependent variables in this study pertain to college teachers' information-based teaching capacity, including the ability to use information-based tools, develop teaching methods, create resources, and execute teaching practices. The National Guide to Teachers' Educational Technical Capacity in Colleges and Universities was used to evaluate the information-based teaching capacity of college instructors. The study found a significant association between technology perception, task flexibility, convenience, social influence, and the transfer of information in college classroom education. The convenience factor, which refers to the teachers' ability to utilize and implement technology efficiently, was a significant factor in adopting information-based teaching. The study highlights the importance of assessing the instructional proficiency of college educators and the social impact of information-based teaching.
Keywords: Information technology, Teaching Transformation

INTRODUCTION
Technology development in higher Education has transformed teaching and learning, enhancing materials, promoting active learning, and increasing assessments. However, challenges include insufficient teacher capacity, training, and resource distribution. Educators must strengthen IT abilities, improve classroom environments, and encourage independent learning and innovation to promote teaching transformation. This study examines Foshan City's higher vocational institutions' IT use and aims to improve teaching and learning outcomes. Information technology has significantly influenced how people produce, live, and think in the 21st century as it has permeated profoundly into all facets of human social life and has done so at an unprecedented rate. The swift advancement of information technology has encouraged the transition of traditional artisanal production methods into more mechanized production methods, which has resulted in a significant increase in the effectiveness of production. At the same time, the widespread use of the Internet has paved the way for the development of novel digital production techniques and created a more open and transparent communication channel between manufacturers and customers. (Liao Qian, 2023) The way people live their lives has also seen significant shifts in modern times. People can realize an online lifestyle by purchasing various commodities, watching movies, and accessing digital resources on the Internet using mobile terminals or laptops and other devices. Online shopping and ticketing have become the trend of the times. People may now connect by voice and make video calls thanks to the proliferation of chat software such as WeChat and QQ. These programs have gradually supplanted traditional telephone

Copyright © The Turkish Online Journal of Educational Technology

communication. People will be able to break through barriers of time and distance and rapidly obtain the most recent news both domestically and internationally because of advancements in information technology, which will turn the globe into a global village. Arguing that advances in information technology will continue to move humanity toward a more intelligent future is not an exaggeration. The revolutionary impact of information technology, which has led to the emergence of significant new phenomena, has also influenced the field of Education. "Information technology has a revolutionary impact on the development of education and must be given great priority," declares the Outline of the National Medium- and Long-term Education Reform and Development Plan (2020-2030) (Zhou Jinzong, 2023). Information technology is gradually making its way into Education and teaching. The renowned educator Gu Mingyuan has mentioned that changes in the information society, particularly innovations in science and technology, are changing the ecological environment of Education and the concepts and methods of Education (Zhu et al., 2023). The conventional methods of Education are undergoing a process of redefinition, and new educational settings are coming into being. Not only has the proliferation of information technology transformed conventional approaches to Education, but it has also made it easier for educators to collaborate on developing new instructional strategies and shared educational resources. Educators everywhere have recently noticed that a hot topic should be incorporating information technology into educational programs (Pu Jili,2023). In higher Education, innovative teaching techniques such as flipped classrooms and smart teaching have become widespread, pushing the boundaries of conventional teaching. Higher Education is undergoing continuous reform and innovation, primarily due to the impact of information technology. In order to improve the quality of Higher Education, the "Outline" emphasizes promoting information about higher Education, modernizing educational content, teaching methods, and teaching approaches, innovating talent cultivation, research organization, and social service models, and promoting cultural inheritance and innovation. (Zhang Xia,2023).

Therefore, research on employing Information Technology Teaching for Organization Learning at FOSHAN University of Higher Education. Because of this, creating new methods of Education and Education overall can lead to significant theoretical and practical advancements. At the same time, the rapid growth of information technology has led to an increase in the complexity of the challenges associated with the transformation of teaching in higher Education. Practitioners in Higher Education face several obstacles, including supporting the transformation of teachers' teaching principles, overcoming issues in teaching using information technology, and assuring the proper implementation of individualized learning for students. Because of the complexity of these challenges, in-depth research and investigation are required to give a scientific foundation and practical guidance for the expansion of higher Education.

LITERATURE REVIEW

Foshan University, a renowned educational institution in China, faces challenges integrating information technology into its instructional strategies due to rapid technological advancements. This literature review investigates organizational learning through IT teaching methods, focusing on Foshan University's educational challenges in this technologically advanced environment.

Theoretical Underpinnings of the Learning Process in Organizations

Acquiring new information and putting that information to use within the framework of an existing organization are the two main components of the dynamic process known as organizational learning. This process is not only centered on the person but also extends to the construction of collective knowledge within the organization, forming a common cognitive framework. Learning inside an organization is a dynamic and necessary process that encompasses acquiring, interpreting, and applying information to improve performance and adapt to changing surroundings. This learning can take place within any business. This idea is based on several significant theoretical foundations, each providing a unique perspective on how organizations learn and develop throughout time. Organizational learning is facilitated by social networks, as per structuration theory. This study explores how informal school contacts aid learning using survey and interview data from rural school districts. The study reveals that organizational and social settings facilitate knowledge-building and sharing, creating reliable knowledge-sharing venues and informal knowledge frameworks (Karnopp, J., 2022).

1) Single-Loop and Double-Loop Learning: First put forward by Chris Argyris and Donald Schon in the late 1970s, the concept of single-loop and double-loop learning serves as a cornerstone of organizational learning theory. In double-loop learning, fundamental assumptions and values are questioned and maybe revised, unlike single-loop learning, which adjusts within already-established frameworks for better results. This contrast sheds light on the gap, within companies, between incremental progress and radical change.
2) Both the cognitive and behavioral approaches place an emphasis on the function mental processes play in the process of organizational learning. This encompasses how humans perceive new information and knowledge, process it, and integrate it into their existing knowledge base. On the other hand, behavioral approaches focus on observable acts, routines, and practices that occur within an organization. Both viewpoints help to fully comprehend how learning can take place on individual and collective levels.

Copyright © The Turkish Online Journal of Educational Technology

3) Communities of Practice: In the early 1990s, Jean Lave and Etienne Wenger came up with the idea that learning is not just an individual activity but also a social one. This idea underpins the communities of practice theory, which states that learning is a collaborative process. People naturally tend to group into communities where they exchange information, experiences, and behaviors relevant to their shared vocations or interests. Within organizations, the distribution of information and the production of new knowledge are significantly aided by these communities' contributions.
4) Resource-Based View (RBV): The Resource-Based View, which originated in strategic management, proposes that an organization's competitive edge originates from its unique and valuable resources. This theory proposes that knowledge, as an essential resource, can be a source of sustainable competitive advantage in the framework of organizational learning. Organizations that successfully exploit their knowledge bases in a changing world can better adjust to the changes and remain resilient.
5) Organizational Memory and Sensemaking The organizational memory theory investigates how businesses store, retrieve, and use acquired information over the course of their existence. It highlights the importance of keeping detailed records of events, lessons learned, and best practices. This is supplemented by the notion of sensemaking, which Karl Weick conceived and developed. It investigates how individuals and groups make sense of complicated and ambiguous circumstances. When taken together, these theories shed light on how organizations learn from their prior experiences and navigate uncertainty.

The theoretical underpinnings of organizational learning offer frameworks that can be used to understand how organizations acquire information, how that knowledge is distributed, and how it is implemented. Researchers and practitioners can acquire a holistic understanding of how companies learn and adapt in an environment that is constantly changing if they integrate the several views that are available to them. These theories serve as helpful guides for establishing successful learning strategies and cultivating a culture of continuous improvement, both essential to modern businesses' success. Organizational learning continues to be a significant factor in determining the success of modern businesses.

IT integration in higher Education

E-learning effectiveness, self-efficacy, and motivation significantly affect strategy, while willpower and attitude indirectly affect motivation—experience with e-learning moderates effectiveness. Modern pedagogy relies on IT in Higher Education, changing teaching and learning worldwide. This literature review covers IT integration in higher Education's main issues, theoretical frameworks, problems, and best practices. E-learning self-efficacy and motivation are crucial to incorporating IT into higher Education since they affect the experience's success. The TPACK framework and the inquiry community paradigm are essential tools for integrating technology into higher Education. The TPACK framework focuses on the interaction of Technological, Pedagogical, and Content Knowledge, while the inquiry community emphasizes social, cognitive, and teaching presence in online learning settings. The Diffusion of Innovations Theory explains higher education IT adoption.

Blended learning and flipped classrooms promote individual and collaborative learning. However, challenges include the digital divide, technology resistance, and faculty training. Continual training and student-focused design can improve learning experiences. Blended learning is becoming increasingly popular, sometimes called cross-mode learning and mixed-mode learning. This pedagogical approach brings together in-person and online learning. The goal of this type of Education is to create environments that are conducive to combined and blended learning. As a result of the rapid technological advancements in information and communication technology (ICT), blended learning has recently become extremely popular. It empowers instructors all over the world to choose their preferred learning modality. As a component of this learning model, various individuals, including teachers, officers, and representatives in schools, colleges, and Higher Education, as well as governing boards and ministries, are researching the possibilities of blended learning as a method that is pedagogically sound and beneficial for increasing access to Education. As a natural consequence of the proliferation of information available on the Internet and the World Wide Web, blended learning has emerged as the most popular approach to Education in many industrialized nations. In the past two centuries, online technology has impacted Education and every other facet of human endeavor. Because of its growing popularity, blended learning has evolved over the years.

On the other hand, a significant amount of research is carried out in less developed nations, such as those in the Aasen Regions. This is becoming one of the issues since the number of students and teachers in developing countries is significantly more than in rich countries. Additionally, developing the most up-to-date software, hardware, and capabilities for electronic communications has contributed to a significantly increased rate of technological adoption in developing nations. It indicates that the emphasis of study can become more fluid, and that blended learning is constantly changing (Gaol et al.; F., 2020).

Challenges and Opportunities.

The implementation of information technology in higher Education contains a tremendous deal of potential, but it

Copyright © The Turkish Online Journal of Educational Technology

is not without its obstacles. There may be opposition from faculty members due to differing levels of technology proficiency and trepidation toward changes in teaching approaches. This may be the case. In addition, preventing the widening of digital inequalities requires ensuring that all pupils have equal access to the available information technology tools. Nevertheless, if Foshan University is victorious in overcoming these hurdles, the institution can cultivate a culture that values innovation and ongoing Education. Empirical Studies on the Integration of Information Technology into Instruction at Foshan University: There needs to be more empirical research that specifically concerns the use of technology in the classroom at Foshan University. According to the currently available research, there appears to be an increasing understanding of the benefits of using information technology (IT) in pedagogical techniques, particularly as a response to the global movement toward remote and hybrid learning models (Wu & Zhu, 2020).

Additional research is required to have a deeper understanding of the efficiency of information technology tools in enhancing learning outcomes within the specific parameters of Foshan University. Optimal Methods and Suggested Courses of Action: Foshan University can think about implementing a phased strategy if it draws on the recognized best practices for using information technology in higher Education. This includes supplying faculty members with extensive training and assistance, ensuring everyone has equal access to information technology resources, and cultivating a collaborative learning culture by utilizing technology-enabled platforms. In addition, evaluations and feedback systems that are carried out on a consistent basis are to be put into place so that the impact of various approaches to instructing students in the field of information technology may be evaluated. After conducting research, it was found that using information technology in instructional approaches can significantly contribute to organizational learning at Foshan University. The university can improve the educational experience of its teaching staff and student body if it adopts information technology (IT) as an educational facilitator. This would position the institution as a forward-thinking hub of Higher Education in the digital age. To corroborate these findings and provide direction for future endeavors, it will be necessary to conduct additional empirical research that is suited to the particular setting of Foshan University. The process of altering learning models to meet the new demands of our hyper-connected world presents the education sector with considerable hurdles, which they must overcome to meet these new demands. Educators must deal with The most challenging task in the modern period, which is instructing students on how to interact appropriately as active and devoted citizens in our global knowledge society. In addition, the university needs to consider a student's familiarity with digital technologies in order to be able to build new educational models that are suitable for meeting the requirements of modern students. This study aims to evaluate college students' knowledge of and proficiency with digital technologies and the relationship between these factors and the student's previous academic experience. The data collection process consisted of administering a validated ad-hoc questionnaire with a total of sixteen different sections to 757 students ranging in age from 20 to 57 years old. The findings indicate that despite differences in gender and age, those students exposed to Information and Communication Technologies (ICT) throughout their secondary Education have a greater understanding of how to use these tools to their advantage during their time spent learning at the university level. This is true regardless of whether the students were male or female. In conclusion, students need to receive instruction in digital skills before enrolling in university to be prepared with greater digital competence (García et al.; J., 2020).

METHODOLOGY

Teaching Organizational Learning with IT for FOSHAN University of Higher Education, This study examined the efficacy of organizational learning via Information Technology Teaching for FOSHAN University of Higher Education, compared students' achievements before and after learning, and examined students' satisfaction with using it. The main research areas are: This project encourages higher vocational college professors to rethink teaching and learning to serve students better. As education advances, information-based methods threaten traditional ways. Higher vocational schools use information technology to improve classroom teaching more than primary Education since they are not under as much pressure to prepare students for university admission exams or future study. By observing numerous classroom teaching approaches at Foshan City higher vocational institutions. Teaching transformation in higher Education is crucial, using technology to improve learning. Active learning, blended learning, flipped classrooms, adaptive learning systems, gamification, and Edtech technologies like VR and AR improve student engagement and problem-solving. Tech-driven Education requires professional development and training. Formative assessment, digital portfolios, and learning platform analytics help personalize Education. UDL makes learning accessible and inclusive for all students, regardless of ability or disability. Information technology has updated higher education teaching to promote learning, student engagement, and accessibility. Higher education institutions can adapt to changing educational situations by supporting educators, using technology for evaluation, and prioritizing diversity. Teachers teach students how to succeed in the digital age and beyond. To serve students and the digital age, universities must invest in faculty engagement and technology. Effective technology implementation involves vision, strategic planning, and faculty support. Technology integration requires professional development and mentoring for faculty. Infrastructure and resources are necessary for smooth implementation. Effective teaching reform requires student engagement and accessibility.

Copyright © The Turkish Online Journal of Educational Technology

Using data-driven decision-making and feedback loops, evaluate and change regularly. Nowadays, technology needs scalability and adaptability to stay relevant and practical.

IT Optimization for Higher Education Teaching Transformation: Strategy and Implementation. Educational reform in higher Education requires information technology. This requires particular methods and strategies. This essay examines optimizing IT for higher education instructional reform—custom learning platforms and content delivery: Customise learning systems for student demands and learning styles. Use adaptive assessments that adjust difficulty based on student performance for tailored feedback and challenges. Learning Analytics: Track student progress and adapt content to identify needs. Use VR and AR for immersive learning, especially in science, engineering, and history, where visualization is crucial. Create AI and machine learning-based tutoring solutions that allow real-time learning and adapt to individual paces. Blockchain Credentialing: Verify degrees and certifications safely and transparently with blockchain. Video conferencing, messaging, and file sharing with students, professors, and staff improve communication and collaboration.

Create virtual classrooms and forums for peer learning, project collaboration, and conversations. Social Learning Networks: Build online communities for students to share and learn. Accessibility, inclusivity, and UDL: Make educational resources and technology accessible to all pupils, including disabled ones. Provide deaf students with multimedia captions and transcriptions. User Testing and Feedback: Test accessibility with diverse student groups. Faculty should receive ongoing training on new technology and teaching methods. Invite experienced professors to lead technology-integrated teaching seminars. Create learning communities and support networks where academics may collaborate, share materials, and assist instructors. Scalability and Futureproofing; Flexible Infrastructure: Invest in flexible technology infrastructure to keep systems running. Feedback loops and pilot programmers Testing innovative technologies on a small scale before introduction with faculty and student input improves them. A long-term technology roadmap should align technology with the institution's instructional goals.IT optimization must be systematic and comprehensive for higher education teaching reform. Customizing learning platforms, integrating emerging technologies, enhancing communication and cooperation, emphasizing accessibility, Providing professional development, ensuring scalability, and meeting student demands can enhance learning outcomes and prepare students for digital success.

Conceptual Framework

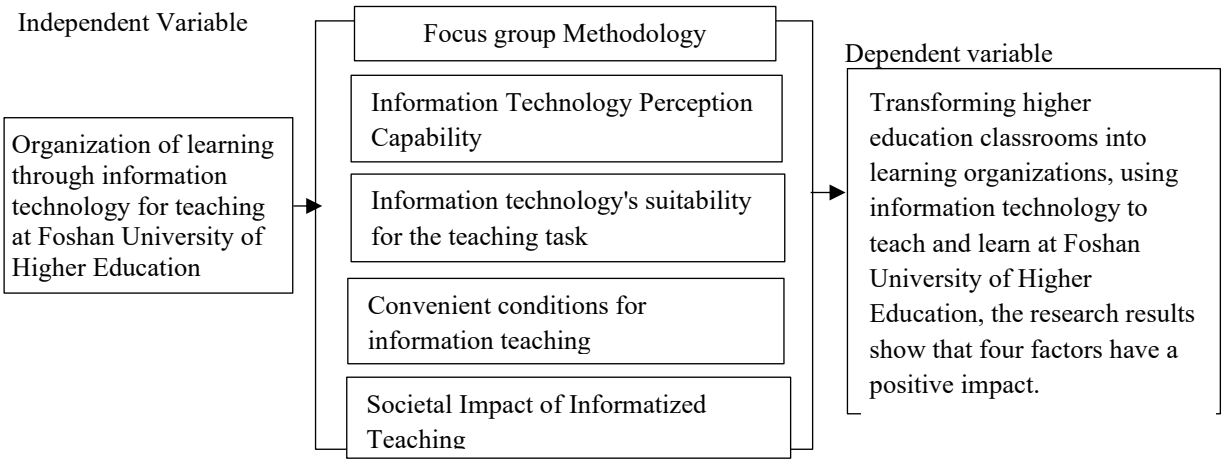

Figure 1. Conceptual Framework of the Study

Theoretical Perspective

This study will summarize and investigate higher education classroom teaching change by reviewing relevant studies. A questionnaire survey will assess college instructors' classroom teaching transformation. Higher vocational colleges and universities in Foshan will be our focus. Finally, we will perform a scientific study to assess how information technology promotes higher education teaching change. We will set variables such as instructors' impressions of information technology, their ability to use technology for teaching, and their adaptability to technology-based teaching activities. Sample and population scope. This research will assess Foshan vocational colleges and universities using simple random selection. The data collection method will distribute 370 questionnaires. We received 356 valid questionnaires and received 96.2% responses. Study samples will include this data. This study examines Foshan, Guangdong Province upper vocational college and university professors. This initiative surveys teachers' teaching and learning status concerning the IT-driven classroom transformation. The Value of Organizational Learning helps the organization adapt to changing conditions by sharing knowledge. Organizational learning allows colleges and universities to analyze, share knowledge, and

Copyright © The Turkish Online Journal of Educational Technology

collaborate on information-age teaching methods and strategies, improving instruction and innovation.

Definition of Information Technology: Information technology encompasses a variety of tools, techniques, and applications designed to acquire, process, store, and transmit information. In the context of classroom transformation in higher Education, information technology is pivotal in integrating digital tools and resources into the teaching and learning process to foster interactivity, individualization, and collaboration.

Focus Group Methodology Implications: Focus Group Methodology is a collaborative research strategy designed to delve deeply into a specific topic through group discussion and communication. The application of the focus group methodology can facilitate the collection of diverse perspectives, experiences, and insights that lead to a deeper understanding and informed decision-making in the study "Transforming the Higher Education Classroom with Information Technology."

Transforming the Higher Education Classroom: Transforming higher education classrooms requires a departure from the traditional teacher-centered instruction and passive student reception model to a more interactive, exploratory, and collaborative approach to learning. This shift cultivates higher levels of student engagement, creativity, and problem-solving skills and better prepares students for the future demands of society.

Definition of a Learning Organization: A learning organization continuously acquires, creates, and disseminates knowledge to adapt to change and continuously innovate. In the context of classroom transformation in higher Education, a learning organization transforms into a higher education institution that actively reflects and enhances its teaching methods and readily integrates new knowledge and technology to improve teaching effectiveness and overall student quality.

Achieving meaningful student learning: Meaningful student learning is measured by students' ability to acquire more profound knowledge, develop critical thinking skills, engage in collaborative learning, and apply their knowledge to real-world problem-solving scenarios. With the transformation of higher education classrooms facilitated by information technology, students can collectively and individually achieve meaningful results in an interactive and innovative learning environment.

Significance of Foshan Higher: Foshan Higher Vocational Institution is a prime example of the practical application of information technology in classroom transformation. The study of Foshan Higher Vocational Institution provides insights into the application, effectiveness, and challenges of information technology in actual teaching and learning scenarios, providing valuable lessons and insights to other colleges and universities seeking to embark on the journey of teaching and learning transformation.

Expected Benefits: Information technology is vital in higher Education by facilitating theoretical teaching and practice and contributing to classroom teaching reform. This transformative process involves the entire teaching system, particularly the shift from a teacher-centered to a student-centered teaching structure. Through extensive case studies and data analyses, we have confirmed the enabling effect of information technology on the transformation of college classroom teaching and gained insight into how information technology promotes this transformation in higher vocational colleges and universities in Foshan City. We also analyzed the effectiveness of the current digital classroom transformation and identified challenges faced by colleges and universities in Foshan City, Guangdong Province. Based on these findings, we propose specific measures to promote the transformation of classroom teaching using information technology in higher vocational colleges and universities in Foshan City. By using education information technology, we can promote education reform in a way that aligns with the logic of education management, ultimately impacting classroom teaching and providing practical guidelines for tracking the process and impact of education change.

Research Design

1) Research assumptions

This study aims to explore in depth the contributing factors of information technology in the transformation of university teaching. Based on existing literature and theories, we have identified four factors that significantly affect the promotion of information technology in the transformation of university classroom teaching, which are formulated as research hypotheses:

Hypothesis 1 (H1): The technological perception ability of university teachers positively and significantly influences the transformation of university classroom teaching. Using the Technology Acceptance Model (TAM), we derive perceived usefulness and ease of use as factors of technology acceptability. We hypothesize that university teachers' higher technological perceptual capacity correlates with an increased likelihood of acceptance and use of information technology, thus promoting innovation and transformation of university classroom

Copyright © The Turkish Online Journal of Educational Technology

teaching.

Hypothesis 2 (H2): The compatibility of information technology with teaching tasks positively impacts the transformation of university teaching. According to the Task-Technology Fit (TTF) model, we consider technology-task compatibility as one of the influencing factors. We postulate that the greater the compatibility between information technology and teaching tasks, the greater the inclination of teachers to implement information technology in teaching, ultimately promoting the development and informatization of university teaching.

Hypothesis 3 (H3): The convenience of information technology in teaching significantly and positively promotes the transformation of university classroom teaching. Based on the Unified Theory of Acceptance and Use of Technology (UTAUT) model, we consider convenience conditions as one of the influencing factors. More convenient conditions for using information technology will enhance the application and use of information technology and multimedia technology in the classroom, inevitably leading to the transformation and advancement of university classroom teaching.

Hypothesis 4 (H4): The Social Impact of information technology in teaching positively impacts the transformation of university classroom teaching. Higher levels of social impact of information technology in the teaching environment lead to a more comprehensive and impactful transformation of university classroom teaching. We hypothesize that the more significant the social impact of information technology on the university teaching environment, the more it will facilitate the implementation of informatization in university teaching.

Through in-depth research and empirical analysis of the above research hypotheses, we aim to provide strong theoretical support and practical experience for the integration of information technology in transforming university teaching. In addition, we aspire to provide valuable insight and guidance for the reform and development of higher education teaching. We will strictly adhere to academic norms throughout the research process to ensure objectivity and accuracy. We aim to provide valuable recommendations and insights for educational practice and policymaking.

2) Variable selection

Latent Variable	connotation	Observed Variable
Information Technology Perception Capability of University Teachers	Teachers' Perceived Usefulness and Ease of Use of Information New Technologies	The extent to which teachers believe that the application of information technology in teaching will improve teaching effectiveness (X1)
		Teachers' perceived ease of use of information technology in the teaching process (X2)
Fit Between Information Technology and Teaching Tasks	Teachers' perceived match between information technology and current teaching	Teachers' perceived ease of use of information technology during the use process (X3)
		Teachers' perceived consistency between information technology and individual teaching needs (X4)
		Teachers perceived relative advantages of using information technology in teaching compared to traditional teaching in terms of functionality (X5)
Facilitating Conditions for Enhanced Information Technology Education	Teachers' perceived ease of using information technology and implementing classroom transformation	Degree of Openness of School Network Information Resources (X6)
		Adequacy of information teaching equipment in schools (X7)
		The degree of policy incentives provided by the school for teachers to implement information technology-enhanced teaching (X8)
Social Impact of Information technology-enhanced Education	The influence of social environment on teachers' information technology-enhanced teaching	Number of colleagues implementing information technology-enhanced Education (X9)
		Teachers' acceptance of information technology-enhanced teaching in schools (X10)
		Information technology-enhanced teaching environment in schools (X11)

3) This study focuses on how information technology transforms university teaching and employs various research approaches to implement the study design effectively. The primary research methods used in this study include a

Copyright © The Turkish Online Journal of Educational Technology

literature analysis approach that tracks international and domestic literature on university teaching transformation, educational informatization, and integration. We ensure our research is authoritative and cutting-edge by methodically evaluating and comprehensively analyzing many academic papers, research reports, policy documents, etc. Our research is based on a theory that explores the role of information technology in teaching at the university level. To conduct the study, we used a two-stage questionnaire. The first survey examined vocational skills-based training in Foshan higher vocational colleges, while the second poll focused on blended learning classrooms that used information technology. The study aimed to understand instructors' and students' views on how information technology can transform instruction in the classroom.

Observation is crucial in theoretical inquiry, so we conducted in-depth interviews and close observation of diverse classrooms to explore how information technology transforms university teaching. Through this method, we discovered implicit, dynamic, and ambiguous issues that theoretical research cannot reveal. Observation offers direct insights and reflections on transformation issues, providing colorful and exciting material for further research.

Our study follows a case study methodology and examines typical examples of how information technology transforms university education. These examples include "micro-assistant teaching," flipped classrooms, and intelligent classroom environments for synchronous instruction. By analyzing these examples, we demonstrate how information technology can be used in diverse classrooms and how it transforms instruction. Study subjects and sampling: This study includes Foshan upper vocational college teachers. Our research examines their information technology views, applications, and attitudes to improve classroom instruction. Using simple random sampling, we selected a research sample from Foshan upper vocational college teachers. To verify data dependability, we employed a questionnaire survey. The response rate was 96.2% on 370 questionnaires. We analyze and discuss these legitimate questionnaire data in this study. By statistically analyzing this sample data, we hope to learn about teachers' views on how information technology is changing classroom instruction and how they use it. The research's conclusions and recommendations will depend on these data to fully comprehend how information technology has changed university teaching.

4) Research Tools: We will utilize the CIPP (Context, Input, Process, and Product) model to assess student satisfaction with educational management information system construction at higher vocational colleges. Design, investment, and process management of educational management information systems affect student satisfaction at higher vocational colleges. The results of constructing education management information systems will determine student satisfaction. The Technology Acceptance paradigm (TAM) is a popular theoretical paradigm for technology adoption. This study will use TAM to assess teachers' embrace of information technology to transform instruction. Usefulness, convenience of use, and attitude are vital considerations. We aim to understand how information technology transforms university teaching by investigating teachers' perspectives, attitudes, and readiness to integrate it into instruction. The Task-Technology Fit Model (TTF) shows how IT supports work tasks and meets task needs. This research will examine how information technology transforms university education by matching information technology to university teaching tasks. To understand how information technology affects teaching performance, we shall investigate its compatibility with instructional tasks. Tools Application: This study will use TAM and TTF models to assess information technology's role in university teaching transformation. Promote the transformation of university teaching by examining university teachers' perceptions of information technology capabilities, the fit between information technology and teaching tasks, the convenience of IT-enhanced teaching conditions, and the social implications. To interpret the results, we will utilize 11 indicators, such as "the extent to which teachers believe that the use of information technology in education will improve teaching effectiveness."

5) Evaluation of content and questionnaire reliability. We analyzed questionnaire reliability in this study to assure data reliability and consistency. Cronbach alpha assessment on the 11 observable variables showed that the questionnaire's total Cronbach alpha was 0.952, indicating strong reliability and internal consistency. We tested four sub-sections separately for reliability. The first, second, third, and fourth subsections had Cronbach alphas of 0.876, 0.938, 0.863, and 0.987. All four subgroups had Cronbach alpha values above 0.7, indicating excellent reliability and internal consistency between observed variables—test questionnaire validity. To validate the questionnaire, we used AMOS software to do a confirmatory factor analysis. We tested the four subgroups' convergent and discriminant validity. In the convergent validity test, all observed variable factor loadings were more than 0.7, suggesting good explanatory power and a satisfactory explanation of latent variables. In the composite reliability test, all four subsections had CRs greater than 0.7 and AVEs greater than 0.5. Our discriminant validity test showed that the correlation coefficients between the constructs were all less than the square root of the AVE for the corresponding latent variables. This demonstrates convergent solid validity and discriminant questionnaire constructs.

Copyright © The Turkish Online Journal of Educational Technology

6) Three parts comprise data analysis: Part I tests the conceptual model of information technology for college and university classroom teaching transformation against real data. Part II examines the structural equation model for higher education information technology for teaching transformation, its causes, and its future. This stage estimates and evaluates model variables to determine their relationship and function. Information technology's four university teachers' assessed competency, appropriateness of technology and instructional assignments, facilitating environments, and society have direct effects. Part III applies empirical analysis from the first two parts to test the four study hypotheses. The researchers will use statistical tests and hypotheses to assess how university professors' perceived IT ability, IT and teaching tasks, IT teaching supporting conditions, and the IT teaching society affect university teaching transformation. This chapter uses qualitative and quantitative research approaches. Qualitative fieldwork and interviews with Foshan Higher Vocational College teaching staff explored how information technology transforms university teaching and gathered relevant information. This quantitative study used 370 questionnaires issued to Foshan Vocational College professors and 356 valid questionnaires gathered, yielding a 96.2% response rate. We also designed and analyzed a conceptual model for transforming university education through information technology. Estimating the structural equation model will reveal the links and pathways between information technology-enabled university teaching transformation and its affecting elements. The focus will be on four dimensions: university teachers' IT perception skills, the alignment between IT and teaching tasks, the convenience of IT-supported teaching conditions, and the social implications of IT-supported teaching, focusing on their direct impact on university teaching transformation. Finally, the research hypotheses will be examined, and a qualitative and quantitative analysis of supporting university teaching transformation using information technology will be done. This chapter's research methods and data analysis establish the groundwork for further examination of information technology's involvement in university teaching transformation.

This study analyses data with SPSS 22.0 and AMOS 17.0. First, SPSS 20.0 will briefly describe and statistically analyze Foshan higher vocational colleges and universities' information technology teaching capabilities and its impacting elements. After a preliminary correlation analysis of teachers' information-based teaching abilities and their influencing elements, AMOS 17.0 analyses the structural model of effective classroom transformation into information-based teaching. This study also analyses the mechanisms that transform effective classroom information-based teaching and the relationship between information technology, educational task adaptability, information-based teaching convenience conditions, and the societal impact of information-based teaching. (1) Sample demographics. This study is questionnaire-based. Designing the teachers' information-based teaching ability scale mainly uses the "National Guide to Teachers' Educational Technology Ability in Colleges and Universities" and existing research scales at home and abroad to modify and improve them. This study uses Likert 5-point scales to quantify influencing factors using maturely utilized scale questions in relevant literature at home and abroad. This study uses data from "Investigation and Research on Informatization Teaching Ability and Influencing Factors of College Teachers." Questionnaire stars created and distributed online questionnaires. The questionnaire samples came from 4 Foshan higher vocational colleges. Finally, 356 genuine surveys arrived. The sample data is in Table 4-1.

Table 1: Basic information of study subjects

(*n=356*)

Demographic variables	Category	Frequency	Effective percentage (%)
Gender	Male	116	32.6%
	Female	240	67.4%
Age	20~ 30 years old	34	9.6%
	30～40 years old	143	40.2%
	40～50 years old	108	30.3%
	50～60 years old	68	19.1%
	Over 60 years old	3	0.8%
Teaching age	1～5 years	82	23.1
	6～10 years	51	14.3
	11～15 years	61	17.1
	16～20 years	51	14.3
	More than 20 years	111	31.2
Education	Undergraduate	94	26.4%
	Graduate student	210	59%
	PhD	52	14.6%
Professional title	Lecturer	166	46.6%
	Associate Professor	147	41.3%

Copyright © The Turkish Online Journal of Educational Technology

	Professor	43	12.1%
School	Shunde Polytechnic	89	25%
	Foshan Polytechnic	90	25.3%
	Guangdong Polytechnic	76	21.3%
	Guangdong Polytechnic of Environmental Protection Engineering	101	28.4%
Category of subjects taught	Humanities	115	32.3%
	Social Sciences	170	47.8%
	Science and Engineering	70	19.6%
	Agriculture and forestry	1	0.3%

The table shows that female survey participants outnumbered males by almost 30%. Most teachers in the poll were 30-40 (40.2%) and 40-50 (30.3%). Following them were 50-60-year-olds and 20-30-year-olds, with 0.8% of teachers over 60. The survey found 59% of teachers had postgraduate degrees and 14.6% had doctorates. The poll had 46.6% lecturers, 41.3% associate professors, and the lowest professors. With 28.4% of teachers, Guangdong Vocational College of Environmental Protection Engineering outnumbered its 21.3% counterpart. There were 47.8% social science teachers, 32.3% humanities, 19.6% science and technology, and 0.3% agriculture and forestry. This research gives accurate and valid data for practical research and analysis due to the number of samples and demographics. (1) Independent Variable Definition and Measurement: Before establishing the structural equation model, the independent variables' measurement indicators and question setting must be clarified, and each measurement index must be set under the definition dimension of the independent variables. Latent variables in this study include technical perception skill, internal motivation, technology and task adaption, convenience conditions, enabling conditions, and social influence. Every hidden variable has 2–3 observation variables that answer measurement questions. For variable definitions and measurements, see Table 2.

Table 2: Independent variable measurements and definitions

Latent Variable	connotation	Observed Variable
Information Technology Perception Capability of University Teachers	Teachers' Perceived Usefulness and Ease of Use of Information New Technologies	The extent to which teachers believe that the application of information technology in teaching will improve teaching effectiveness (X1)
		Teachers' perceived ease of use of information technology in the teaching process (X2)
Fit Between Information Technology and Teaching Tasks	Teachers' perceived match between information technology and current teaching	Teachers' perceived ease of use of information technology during the use process (X3)
		Teachers' perceived consistency between information technology and individual teaching needs (X4)
		Teachers' perceived relative advantages of using information technology in teaching compared to traditional teaching in terms of functionality (X5)
Facilitating Conditions for Enhanced Information Technology Education	Teachers' perceived ease of using information technology and implementing classroom transformation	Degree of Openness of School Network Information Resources (X6)
		Adequacy of information teaching equipment in schools (X7)
		The degree of policy incentives provided by the school for teachers to implement information technology-enhanced teaching (X8)
Social Impact of Information technology-enhanced Education	The influence of social environment on teachers' information technology-enhanced teaching	Number of colleagues implementing information technology-enhanced Education (X9)
		Teachers' acceptance of information technology-enhanced teaching in schools (X10)
		Information technology-enhanced teaching environment in schools (X11)

Define and measure the dependent variable: The dependent variable of this study is college professors' information-based teaching capacity. This capacity comprises adopting information-based tools, designing teaching, building resources, and implementing it. Test college instructors' information-based teaching capacity using the "National Guide to Teachers' Educational Technical Capacity in Colleges and Universities" evaluation scales and five measurement indicators. The design method required ten measuring items, two for each index. Refer to Table 3 for detailed measurement definitions and methods.

Copyright © The Turkish Online Journal of Educational Technology

Table 3: Dependent variable definition and measurement

Variable	Secondary indicators	Measured indicators	Definition
Classroom teaching transformation information teaching ability	Ability to adapt information tools	Ability to adapt information tools 1	Proficient in using software to make micro-lessons, pictures, videos, animations, etc.
	Ability to adapt information tools	Ability to adapt information tools 2	Ability to use network platforms and information tools for teaching
	Information resource building capacity	Information resource building capacity 1	Ability to produce and process digital educational resources that effectively support classroom instruction
	Information resource building capacity	Information resource building capacity 2	Ability to use information resources to develop online courses or to teach resource libraries in an information environment
	Informatization teaching design ability	Informatization teaching design ability 1	Develop appropriate teaching objectives and design information-based teaching processes.
	Informatization teaching design ability	Informatization teaching design ability 2	Ability to design and build a student-centered learning environment that fosters student collaboration, communication, and interaction
	Information teaching implementation ability	Information teaching implementation ability 1	Ability to implement information technology teaching modes and methods in different environments
	Information teaching implementation ability	Information teaching implementation ability 2	Technical tools can be used to manage and monitor the teaching process effectively and promptly identify and resolve problems encountered in teaching.

Questionnaire reliability and validity tests; reliability analysis. In scientific data analysis, questionnaire reliability matters. It verifies data and findings. This study examined questionnaire reliability with Cronbach's Alpha. Higher coefficients improve questionnaire reliability. Table 4 reveals that each Cronbach alpha potential variable was greater than 0.8, meeting the baseline of 0.7 or above, confirming survey questionnaire reliability.

Table 4: Dependent variable definition and measurement

Variable	Secondary indicators	Measured indicators	Definition
Classroom teaching transformation information teaching ability	Ability to adapt information tools	Ability to adapt information tools 1	Proficient in using software to make micro-lessons, pictures, videos, animations, etc.
	Ability to adapt information tools	Ability to adapt information tools 2	Ability to use network platforms and information tools for teaching
	Information resource building capacity	Information resource building capacity 1	Ability to produce and process digital educational resources that effectively support classroom instruction
	Information resource building capacity	Information resource building capacity 2	Ability to use information resources to develop online courses or to teach resource libraries in an information environment
	Informatization teaching design ability	Informatization teaching design ability 1	Develop appropriate teaching objectives and design information-based teaching processes.
	Informatization teaching design ability	Informatization teaching design ability 2	Ability to design and build a student-centered learning environment that fosters student collaboration, communication, and interaction
	Information teaching implementation	Information teaching implementation	Ability to implement information technology teaching modes and methods in different

Copyright © The Turkish Online Journal of Educational Technology

	ability	ability 1	environments
	Information teaching implementation ability	Information teaching implementation ability 2	In order to manage and monitor the teaching process effectively, technical tools can be utilized. These tools can also help promptly identify and resolve any problems encountered during teaching

Additionally, the reliability and validity of questionnaires can be evaluated through reliability analysis. It is important to note that the reliability test of a questionnaire is its primary purpose, as the consistency and authenticity of scientific data interpretation depend on it. This study used Cronbach's Alpha to assess questionnaire reliability. A higher coefficient suggests a more reliable questionnaire. The study's questionnaire was reliable because every Cronbach alpha potential variable was larger than 0.8 in Table 4, meeting the baseline threshold of 0.7 or above.

Table 5: Validity test results for each variable

Latent variable	Observed variable	Ingredient						
		1	2	3	4	5	6	7
Information Technology Perception Capability of University Teachers	Perceptually easy to use							0.859
	Perceptually useful							0.848
Fit Between Information Technology and Teaching Tasks	Comparative advantage		0.793					
	Convenience		0.780					
	Degree of compatibility		0.795					
Facilitating Conditions for Enhanced Information Technology Education	Platform construction					0.766		
	Sufficient resources					0.765		
	Hardware equipment					0.797		
Social Impact of Information technology-enhanced Education	Group participation				0.739			
	Group identity				0.793			
	Group atmosphere				0.785			
Classroom teaching transformation information teaching ability	Tool adoption 1	0.743						
	Tool adoption 2	0.732						
	Resource construction 1	0.753						
	Resource construction 2	0.718						
	Instructional Design 1	0.668						
	Instructional Design 2	0.736						
	Teaching implementation 1	0.687						
	Teaching implementation 2	0.747						
Eigenvalue		10.915	2.262	1.706	1.249	1.228	1.118	1.062
Explain		23.854%	33.502%	43.038%	52.221%	61.115%	68.289%	75.150%
KMO	0.910							
Inspection of Bartlett's test	6295.791（p=0.000）							

Copyright © The Turkish Online Journal of Educational Technology

Questionnaire: Analyzing a scale's structural validity and latent variable consistency is typical. This study tests validity and dimension component stability with SPSS.21. Exploratory factor analysis is in Tables 4-5. The factor analysis-compliant KMO value of 0.910 exceeds 0.70. Factor analysis is possible since Bartlett's sphericity test 6295.791 and p-value of 0.00 reveal a substantial correlation between variables. The principal component analysis found seven similar factors with eigenvalues >1, resulting in a 75.150% rotated square sum. Orthogonal rotation divided the 20 question alternatives into seven factors with load values over 0.5, indicating that the extracted factors are comprehensive and have no overlapping high-factor loadings. Based on theoretical assumptions, observable variables were aggregated in each dimension. The selected scale has been previously evaluated and is considered structurally valid and suitable for analysis. The research was conducted using Path Analysis and Structural Equation Construction, with correlation analysis carried out using Amos' structural equation model. The findings indicate a strong correlation ($p < 0.05$) between technological perception, task adaptability, convenience, social impact, and knowledge transfer in college classroom instruction. Next, assess the model using fitting indicators to see if the structural equation model is applicable. Improvement is needed in pre-model fitting. The updated model standard increases the co-variability between the four latent variables: technology perception ability, technology and task adaptability, convenience circumstances, and social effect and observation variables e26 and e18's error variance. Corrected model fitting indications are in Table 6.

Table 6: Modified Model Fitting Indicators

Reference index	χ^2/df	RMR	GFI	AGFI	NFI	IF	TAG	CFI	RMSEA
Statistical value	2.093	0.0393	0.892	0.863	0.910	0.951	0.942	0.951	0.055
Reference value	<3	<0.05	>0.8	>0.8	>0.9	>0.9	>0.9	>0.9	<0.08
The standard situation	Reach the standard	Reach the standard	Reach the standard	Reach the standard	Reach the standard	Reach the standard	Reach the standard	Reach the standard	Reach the standard

The enhanced model demonstrates adherence to the standard of Structural Equation Modelling, hence enabling the utilization of path coefficient analysis. Table 7, generated by the AMOS software, will display the path coefficients of latent variables that impact the ability to teach based on knowledge. The table will help examine and clarify the influence of these factors. According to instructors, practicality and applicability are the top priorities regarding information technology. The results of the Structural Equation Model analysis indicate a statistically significant positive relationship between the technology perception capacity of college professors and their ability to engage in information-based teaching (t value = 4.035, $p = 0.000 < 0.01$). The enhanced capacity of individuals to perceive higher levels of information technology facilitates the transformation of classroom teaching into instruction centered around the utilization of information. They are providing evidence in favor of hypothesis H1.

Additionally, the findings of the Structural Equation Model indicate a statistically significant positive association between information technology and the adaptation of teaching tasks, as well as the transformation of classroom teaching into the ability to deliver instruction based on information (t value = 2.415, $p = 0.0016 < 0.01$). The hypothesis H2 is supported. Furthermore, the comfort factor associated with information-based teaching pertains to teachers' ability to utilize and implement technology effortlessly. Teachers need access to sufficient information resources and support for classroom equipment to become skilled in using information-based teaching methods. Convenience circumstances have the highest effect coefficient and significant level among the essential elements, with a path coefficient of 0.260 (t value = 3.888, $p = 0.000 < 0.001$). As convenience conditions improve, shifting from traditional classroom teaching to information-based teaching becomes more accessible and seamless. This positive relationship between convenience conditions and the transition to information-based teaching supports hypothesis H3. The social impact of information-based teaching is related to how much the collective environment of information-based teaching affects the adoption of information-based instructional methods in higher education institutions. The results of the path coefficient analysis indicate a statistically significant positive association between the social impact of information-based teaching and the ability of classroom teaching to transition into it (t value = 2.038, $p = 0.042 < 0.05$). This finding provides support for hypothesis H4. Technology integration into higher Education is significantly transforming, driven by several influential variables. These elements include educators' capacity to comprehend and effectively utilize information technology, the extent to which technology is adapted to meet specific educational objectives, the convenience afforded by technology-based teaching methods, and the social implications associated with its implementation. To enhance the quality of instruction, educators should enhance their knowledge and understanding of information technology, actively cultivate their theoretical and practical understanding of information-based teaching, and participate in training programs focused on information-based pedagogy. Enhancing confidence in information-based instruction can elevate the quality and efficacy of Education. In today's world, where information is abundant, promoting innovation in IT and encouraging educational collaboration is crucial. Higher education institutions need to utilize their information resources and provide a practical instructional platform that caters to the unique characteristics of different disciplines while aligning with overarching development objectives. The use of online learning platforms and

Copyright © The Turkish Online Journal of Educational Technology

interactive features has the potential to enhance digitized instruction and optimize the utilization of resources.

CONCLUSIONS, DISCUSSION AND RECOMMENDATIONS

This study's primary objective is to comprehensively examine classroom teaching methods employed in higher education institutions across Foshan City. The purpose is to gain a deep understanding of the merits and limitations associated with each instructional style. Additionally, this research endeavor will leverage information technology to facilitate practical investigations. Through the proactive promotion of integrating information technology-based instructional strategies, we aim to enhance the educational process by facilitating a more immediate and intuitive learning experience for educators and learners alike. Furthermore, we seek to effectively instill a more profound recognition of the enhanced educational merits associated with these pedagogical approaches. The overarching objective is to facilitate a profound transformation in worldwide perspectives and methodologies about Education. The objective of this study is to get a comprehensive understanding of the evolution of teaching methods in colleges and universities by thoroughly analyzing their distinctive characteristics, development history, and diverse approaches employed. This study investigates the impact of implementing revised classroom teaching modes in higher vocational colleges and universities in Foshan City. By incorporating feedback obtained during the implementation process, we aim to examine potential changes in teaching methods employed by educators, shifts in learning habits among students, and broader trends in the future development of the teaching ecology.

Conclusions

This study explores the relationship between teachers' proficiency in information-based teaching, their perception of information technology, their adaptation to teaching tasks, the ease of access to information-based teaching resources, and the social impact of information-based teaching on effective classroom transformation. A questionnaire survey was conducted from higher vocational colleges in Foshan. The findings revealed four factors that positively impact teachers' information-based teaching skills: ease of accessing resources, perception of information technology, adaptation of information technology to tasks, and social impact of information-based teaching. To promote successful implementation, teachers should optimize their knowledge structure, enhance their perception of information technology, promote innovation, encourage collaborative evolution, improve the information resource environment, and establish an information-based teaching platform.

Discussion

While this study has yielded preliminary conclusions based on empirical research, it is important to acknowledge several limitations that necessitate additional refinement in future investigations. Regarding the sampling procedure, it is essential to note that this study did not adhere strictly to the stratified sampling approach during the administration of the questionnaire survey. This deviation might be attributed to limitations in funds and available human resources. Consequently, there could be an unequal dispersion of specific demographic factors among the sample, potentially impacting the sample's representativeness. In order to obtain more universally applicable findings, it is advised that upcoming research endeavors consider increasing their sample size.

Additionally, it should be highlighted that this study solely utilized a horizontal design and did not integrate a longitudinal follow-up survey. In this context, using cross-sectional data must be improved to establish causal correlations. In population biology, integral projection models (IPMs) and matrix models have significantly impacted conceptualizing demographic models. IPMs represent demographic processes as continuous functions of state variables, making them more statistically efficient and accurate than traditional matrix models. This study evaluates the differences between IPMs and matrix models and their impact on estimating key model outputs, such as population growth rates, sensitivity patterns, and life spans. Results show that empirical sample sizes generally matter more than the modeling approach for the accuracy of demographic outputs (Doak et al.; M., 2021). To further our understanding of the interplay among different variables, it is recommended that the following studies concentrate on students' evaluations of their instructors' aptitude in incorporating technology within the educational setting and their capacity to facilitate in-depth debates and analyses.

Recommendations

The study emphasizes the importance of fostering a comprehensive understanding of information-based teaching in college education. It recommends that educators adopt a more inclusive perspective and continuously improve their understanding of subject-specific instructional technology. Institutions should establish conditions conducive to teacher development by offering comprehensive training programs focused on information technology instruction. The Teacher Education Development Centre and the Modern Education Technology Centre are recommended. The objective is to create an interconnected system involving multiple departments, such as these institutions, to establish a consistent and enduring training system for teachers in information technology. Research should be conducted to assess teachers' instructional competencies and the demand for such skills. The study explores the design approach of a professional development program for adult education teachers, focusing on technology integration. The design approach emphasizes the importance of aligning information with teachers' specific needs, allowing them to design technology-enhanced learning artifacts and selecting appropriate ICT tools

Copyright © The Turkish Online Journal of Educational Technology

for adult learning (Alemdag et al.; E., 2020). Training courses will be developed to align with the information-based teaching environment prevalent in schools, promoting a collaborative mindset, staying updated with professional knowledge, and stimulating enthusiasm for continuous learning. A comprehensive framework will be implemented to train teachers in information-based teaching practices, including a communication platform and various teaching research activities. Institutions should also cultivate a collective vision of information technology education among their academic members, enabling them to collaborate and exchange ideas about IT education within university standards. This interaction fosters a collective atmosphere of assistance and collaboration, facilitating the development of common principles and cultural standards. Instructional design competitions and regular academic exchange initiatives are recommended to promote the advancement of educational capabilities in the realm of information technology.

References:

Alemdag, E., Cevikbas, S., & Baran, E. (2020). The design, implementation, and evaluation of a professional development program to support teachers' technology integration in a public education center. Studies in Continuing Education, 42, 213 - 239. https://doi.org/10.1080/0158037X.2019.1566119.

Doak, D., Waddle, E., Langendorf, R., Louthan, A., Chardon, N., Dibner, R., Shriver, R., Linares, C., García, M., Fitzpatrick, S., Morris, W., & DeMarche, M. (2021). A critical comparison of integral projection and matrix projection models for demographic analysis: Reply. Ecology, e3822 . https://doi.org/10.1002/ECM.1447.

Karnopp, J. (2022). Structures and relationships in organizational learning for change. Journal of Educational Administration. https://doi.org/10.1108/jea-09-2021-0177.

Liao Qian. Problems and countermeasures in cultivating informatization teaching ability of regular students in local colleges and universities [J]. Quality-oriented Education in Western China, 2023, 9 (16): 119–123.

Li, Y., Sangsawang, T., & Vipahasna, K. (2023). Utilizing the Delphi Technique to Develop a Self-Regulated Learning Model. Journal of Applied Data Sciences, 4(3), 254-263. doi:https://doi.org/10.47738/jads.v4i3.124

Pu Jili. Research on computer technology application strategy in reforming informatization teaching in higher vocational colleges [J]. Information System Engineering, 2023 (08): 116–119.

Sangsawang, T., Jitgarun, K., and Kiattikomo, P.(2011). "An internet based Instructional Design Framework for vocational education," International Journal of Soft Computing, vol. 6, no. 4, pp. 119–127, 2011. doi:10.3923/ijscomp.2011.119.127

Sangsawang, T. (2020). An instructional design for online learning in vocational Education according to a self-regulated learning framework for problem-solving during the COVID-19 crisis. Indonesian Journal of Science and Technology, 5(2), 283-298.Singh, J., Steele, K., & Singh, L. (2021). Combining the Best of Online and Face-to-Face Learning: Hybrid and Blended Learning Approach for COVID-19, Post Vaccine, & Post-Pandemic World. *Journal of Educational Technology Systems*, 50(2), 140–171. http://doi.org/10.1177/00472395211047865

Zhu Chengliang, Wu Wenxin. Research on the innovation and practice of aesthetic Education in higher vocational colleges [J]. Journal of Taiyuan City Vocational Tech Academy, 2023 (08): 46–48.

Zhang Xia. Informatization teaching design of core logistics management courses in higher vocational colleges - taking "Application of Logistics Information Technology" as an example [J]. China Storage and Transportation, 2023 (08): 62–63. DOI: 10.16301/j.cnki.cn12-1204/2023.08.022.

Zhang, Y., Sangsawang, T., & Vipahasna, P. (2023). Assessing Factors and Simulating Innovation: A Study of Innovative Capacities Among Data Science Professionals in China. Journal of Applied Data Sciences, 4(3), 213-228. doi:https://doi.org/10.47738/jads.v4i3.123

Copyright © The Turkish Online Journal of Educational Technology