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Original Research Article

Guidelines for Teacher's Digital Skills Development in Commercial Technology College in Bangkok

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ABSTRACT

This research aimed to study 1) the level of teachers' digital skills development and 2) guidelines for teachers' digital skills development at Commercial Technology College, Bangkok, using a mixed methods design of quantitative and qualitative analysis. The research sample groups consist of 144 teachers, used to collect data from a survey questionnaire. Interview 7 experts from Semi - Structural Interviews, descriptive statistics is used through the statistical package for the Social Sciences (SPSS) software to analyze the quantitative data which describes frequency distribution, percentage, average, and standard deviation, and content analysis is used on the qualitative study.

The research results were as follows 1) The level of teacher's digital skills development overall is at a high level 2) The guidelines for teacher's digital skills development (2.1) In Digital Media Creation Program aspect— Training and Workshops, Integration into curriculum, Feedback and Evaluation, Adaptability and Creativity and Support from School Leadership (2.2) In Digital Security aspect— Clear digital security policies, encourage teachers and Educate teachers on the risks associated.

Introduction

Digital technology has come to play a role with the young generation, known as "Digital Native" which is a group of youth who are fluent in using digital media in social networks and have the potential to learn and use advanced digital technologies. Digital literacy is an evolving concept with trends in information and communication technology and is a skill that must be developed for digital natives to ensure that technology skills can be developed and applied appropriately. Life is surrounded by digital technology, especially for young people who may face hidden threats in the online world. Hence the importance of digital literacy skills so that digital natives can access, learn and benefit from the safe, creative, ethical, and social use of digital technology. To lead to good citizenship in the digital age. Therefore, learning materials that help teachers organize teaching more comfortably contribute to learning in a new, modern way and without limitations in time or place to learn a necessity. (Simmon, 2013, p. 81)

Good digital will improve the learning process, enhance students' interest in learning, and at the same time reduce the amount of time it takes to learn. In choosing to use digital learning management to create knowledge and media for students, it depends on the needs of teachers and students to enhance their teaching and learning abilities, taking into account other factors: 1) integrate technology into teaching and content to be taught, 2) how to integrate technology into teaching through teaching media, teaching process, and learning theory, 3) integration taking into account the availability of equipment and teachers' media literacy technology. (Nugraha, 2020, p. 331)

The practice of digital literacy skills should be integrated into real contexts relevant to the daily lives of teachers and students rather than being taught as a single subject. In general, educators try to promote and encourage "Digital Literacy Practices" skills, which enable learners to develop their digital literacy skills to advance their careers. Therefore, instructional designers need to understand how to develop and engage in instructional management to develop this knowledge skill (Nouri, 2020, p. 14)

Commercial Technology College, in Bangkok has set a policy and focus on developing executives, teachers, and educational personnel to perform their full potential, efficiently according to professional standards and competencies, develop a performance-oriented management system, and take responsibility for the quality of education. The school is a modern organization with high flexibility and is managed according to the principles of good governance. Make the best use of resources, raise awareness of teachers' civil servants, and educational personnel on morality, ethics, and professional ethics, and reduce teachers' unrelated workload. Apply information and communication technology systems to increase the efficiency of organizational management and develop teaching and learning concretely. (Attawit Commercial Technology College, 2024, p. 5) From these problems, the researcher saw the importance of studying Need Assessment and Guidelines for the Development of Teacher's Digital Skills at Commercial Technology College, in Bangkok.

Objective

1. To study the teacher's digital skills development level at Commercial Technology College, in Bangkok.

2. To study guidelines for teacher's digital skills development at Commercial Technology College, in Bangkok.

Research Methodology

This study employs a descriptive research design using a questionnaire for data collection and a quantitative analysis approach. Additionally, it integrates a mixed-method research framework, incorporating both quantitative and qualitative research methods.

1. Study Population

The population for this study consists of 230 teachers from Commercial Technology College in Bangkok.

2. Sample and Selection Techniques

The sample size is determined using Krejcie & Morgan's (1970) table, resulting in a sample of 144 teachers from Commercial Technology College in Bangkok. The sampling method used is stratified random sampling to ensure representation from different faculty groups. Additionally, a stratified random sampling approach is applied to five faculties at Hainan Tropical Ocean University, comprising a total of 306 teachers.

3. Research Tools

The primary research tool is a structured questionnaire, designed to gather comprehensive data related to the study objectives. The questionnaire is validated for reliability and consistency before distribution.

4. Research Procedures

- 4.1 Designing the questionnaire based on the study's objectives.
- 4.2 Conducting a pilot study to test the reliability and validity of the questionnaire.
- 4.3 Distributing questionnaires to selected participants using a stratified random sampling method.
- 4.4 Collecting responses and ensuring completeness of data.

5. Data Collection and Analysis

5.1 Data Collection: Questionnaires will be administered in person and via digital platforms to enhance response rates.

5.2 Data Analysis: Quantitative analysis will be conducted using statistical methods such as descriptive statistics (mean, standard deviation, frequency, percentage) and inferential statistics (t-tests, ANOVA).

5.3 Qualitative data (if applicable) will be analyzed using thematic analysis to identify key patterns and insights.

This structured methodology ensures a systematic, reliable, and valid approach to data collection and analysis.

Research Result

1. The level of teacher's digital skills development at Commercial Technology College, in Bangkok.; as shown in Table 1

Table 1 Mean, standard deviation of the level of Teacher's Digital Skills Development

n= 144

Teacher's digital skills	\bar{x}	SD	level
1. Computing and Connected Devices	3.54	0.84	High
2. Internet Network	3.63	0.71	High
3. Effectively Program	3.59	0.75	High
4. Digital Media Creation Program	3.48	0.76	Moderate
5. Social Media for Education	3.55	0.64	High
6. Digital Security	3.40	0.60	Moderate
Total	3.53	0.72	High

Table 1 show that the level of teacher's digital skills development in overall is at a high level (\bar{x} = 3.53, SD. = 0.72)

For the level of teacher's digital skills development in each aspect found that “Internet Network” is the highest mean score at a high level (\bar{x} = 3.63, SD = 0.71), followed by the indicator “Effectively Program” which receives the next highest mean score at a high level (\bar{x} = 3.59, SD = 0.75) while the lowest mean score is “Digital Security” at a moderate level (\bar{x} = 3.41, SD = 0.77)

2. The guidelines for teacher's digital skills development in the Digital Security aspect.

An obtained from interviews with opinions about teacher development in Digital Security aspect from the 7 qualified individuals who largely share similar opinions, and interviews were conducted as follows:

2.1 Develop and communicate clear digital security policies and guidelines for teachers.

2.2 Provide comprehensive training programs that cover the basics of digital security, including password management, secure communication, and data protection.

2.3 Encourage teachers to incorporate digital security principles into their lesson plans.

2.4 Keep teachers informed about the importance of software updates and patches to ensure that their digital tools are equipped with the latest security features.

2.5 Promote the use of secure collaboration platforms and tools for communication and file sharing.

2.6 Educate teachers on the risks associated with using unsecured platforms and emphasize the importance of data encryption.

Discussion

Based on the research results there are 2 important issues as follows;

1. The level of teacher's digital skills development in Commercial Technology College, in Bangkok overall is at a high level — which may be due to the teachers' digital skills development can help form the digital competence of higher education students, enhancing their skills in everyday, professional, and educational activities. The study focuses on the development of digital competence in university students through the use of ICT. The objective is to create an effective policy for the development of students' digital competence through the use of information technologies applicable to the educational process. For the level of teacher's digital skills development in each aspect, it found that “Internet Network” is the highest mean score at a high level— accordance with Stare (2023: 151) found that the renewed Higher Education Agenda expresses the intention to “develop and implement a digital readiness model” to assist higher education institutions, their staff, and students in implementing digital learning strategies and maximizing the potential of cutting-edge technologies such as learning analytics. The anticipated digital transformation will only be successful if higher education institutions and teachers strengthen their digital competencies and skills and “become” digitally competent. Many of the incentives for these processes were prompted by the unexpected COVID-19 crisis, which highlighted the importance of higher education teachers’ digital skills in the need to digitize the higher education environment. The COVID-19 crisis experience and the accelerating development of digitalization are changing both the conditions for education and education itself, which is why higher education teachers face the challenging task of lifelong development of digital competencies. To complete this task, they must learn about information and communication technology (ICT) digital technologies and how they can be integrated into the pedagogical process. The challenge for higher education teachers is to develop ICT based teaching. Pakhomova (2023: 77-88) studied the formation of digital competence using information and communication technologies among students of higher education and found that the increasing digitalization in all spheres of human activity demands the improvement of digital competence in the educational field. This article examines how information and communication technologies (ICT) can help form higher education students' digital competence, enhancing their skills in everyday, professional, and educational activities. The study focuses on the development of digital competence in university students through the use of ICT.

2. The guidelines for teacher's digital skills development in Commercial Technology College, in Bangkok in Digital Security aspect— an obtained from interviews with opinions about teacher development in Digital Security aspect from the 7 qualified individuals largely share similar opinions, and interviews were conducted as follows: 1) Develop and communicate clear digital security policies and guidelines for teachers 2) Provide comprehensive training programs that cover the basics of digital security, including password management, secure communication, and data protection 3) Encourage teachers to incorporate digital security principles into their lesson plans 4) Keep teachers informed about the importance of software updates and patches to ensure that their digital tools are equipped with the latest security features 5) Promote the use of secure collaboration platforms and tools for communication and file sharing and 6) Educate teachers on the risks associated with using unsecured platforms and emphasize the importance of data encryption— this research show that the stability of society and its future development

largely depend on the quality of its preparation. In the context of the general digitalization of education, a future teacher must have certain digital skills that underlie digital literacy for successful professional activity, which are according to Desnenko (2021:1) —including the research result of Popova (2020: 437). found that the digitalization of Educational Processes in Universities: Achievements and Problems. Advances in Social Science found that the digitalization of the global economic processes has had a great impact on the digitalization of higher education. The idea of developing this area of educational activity is supported by many researchers who speak about the possibilities of expanding 24/7 learning technologies for the digital generation, thereby increasing the competitiveness of the university. The purpose of this article is to analyze the pros and cons of organizing the higher education process using digital technologies. The methodological basis of the research was the theories of management, consumer behavior, and sociology. Based on structural and logical analysis and deduction, the positive and problematic aspects of implementing distance learning in universities were identified. The article presents a critical review of the literature that reveals the essence and directions of digital technologies management and the basics of consumer behavior of digital users. Based on desk research, the analysis of university students' feedback on the use of distance learning technologies was carried out. The attitude of students to the online educational process was determined. The positive sides and the problems of using digital technologies in the university were identified. Recommendations were made on improving distance education.

Conclusion

Based on the research findings, two key issues have been identified regarding the development of teachers' digital skills at Commercial Technology College in Bangkok of High Level of Teachers' Digital Skills Development, the study reveals that teachers at Commercial Technology College possess a high level of digital skills development. This proficiency plays a crucial role in shaping students' digital competence, enabling them to enhance their skills in everyday life, professional environments, and educational activities. The study underscores the significance of integrating ICT into higher education to develop students' digital competencies. The ultimate objective is to establish an effective policy framework that fosters students' digital literacy through the integration of information technologies into the educational process. Guidelines for Enhancing Teachers' Digital Skills in Digital Security, insights from seven qualified experts emphasize the importance of digital security in teacher development. The study suggests the following key guidelines for improving teachers' digital security skills i.e., Establish and communicate clear digital security policies and guidelines for educators. Implement comprehensive training programs covering essential aspects such as password management, secure communication, and data protection. Encourage teachers to integrate digital security principles into their lesson plans. Keep teachers informed about software updates and patches to ensure their digital tools are equipped with the latest security features. Promote the use of secure collaboration platforms for communication and file sharing. Educate teachers on the risks of using unsecured platforms and emphasize the importance of data encryption. These findings highlight that the stability and future development of society depend significantly on the quality of digital preparedness among educators. As education undergoes rapid digital transformation, future teachers must possess

essential digital skills that form the foundation of digital literacy, ensuring their effectiveness in professional teaching and learning environments.

Recommendations

1. Commercial Technology College, in Bangkok should encourage a mindset of teachers and empowered to experiment with new digital media tools and approaches for creating an environment that supports innovation fosters continuous improvement.

2. Providing support, allocating resources, and recognizing the importance of digital media creation contribute to the success of such programs and play a key role in fostering a culture of digital skill development.

Suggestions for future research

Future research should further explore to investigate on professional development with a new Digital Media Creation Program using image editing programs, detection programs. The research on Digital Security and Risk Management Commercial Technology College, in Bangkok

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