

Teachers' Perceptions on Digital Teaching Transformation in Cambodian Education Context

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To cite this article: Ourn, V., & Chhorn, T. (2025). Teachers' perceptions on digital teaching transformation in Cambodian educational context. *Journal of Education Innovation and Language Teaching (JEILT)*, 1 (1), 10-20

Abstract

Digital teaching transformation is a process of transforming the digital to boost the quality of education and teaching and learning methods. This recent study purposes to examine the teachers' perceptions on the digital teaching transformation. Also, this research determines the effectiveness and impact of transforming digital into teaching changes in Cambodia. By addressing the in-depth results, this study employed mixed research-methods, combining of qualitative and quantitative research-methods for collecting and analyzing the data. Personal interviews and questionnaires were used to collect data. The content analysis was used to analyze the collected data of the personal interviews. The descriptive statistics analysis-method was employed to analyze the gathered data of the paper-based questionnaires. The results of this present study elaborated on the digital teaching transformation, which helped the teachers improve the methods of teaching and learning. Transforming the digital teaching helped teachers develop the digital capacity and literacy. Thus, this study benefited teachers to transform the digital into teaching and learning development, improve the quality of the digital teaching, develop the digital skills, and integrate the technology into the teaching process with digital literacy and capacity.

Keywords: *Digital teaching, Transformation, Teaching quality, Digital skills, Education*

1. Introduction

Transformation of digital teaching is a process of transforming the digital technology in the teaching and learning process. It is a potential factor for the quality development of digital teaching and learning, developed methods of digital teaching and learning, and its relationship. The Royal Government of Cambodia set up the policy of the digital transformation in education, purposing to develop the digital human recourses and digital education in Cambodia in responding to the era of the industrial revolution 4.0 (Supreme National Council, 2021).

Digital teaching was a response to teacher training reform, and it is a process of transforming education through digital technology in developing the quality of digital education, digital teaching capacity, and digital literacy

(Hangchuon, 2021). He further pointed out the digital transformation into education system with aims of reforming and developing the methods of teaching and learning to increase the human resources with the digital technological skills and streamline the process of teaching and learning quality. Digital transforming into teaching is a vital mission for educational institutions to take advantages of advancing the communicative technology, information, and digital literacy (SNC, 2021).

Integrating the digital technology is needed for the support of teaching and learning process in aiming to proffer the insight into how teaching changes through technology adoption (Dirk et al., 2021). They, in addition, argued that in the context of Industry 4.0, transforming the digital into teaching benefited the quality development of teaching and learning, created the e-teaching systems, and made the digital teaching platforms to support the teaching and learning process. The digital devices were used in the digital transformation to determine the growth and development of digital teaching (Parlak, 2017). The growth of transforming the digital into teaching is the use of digital technology in teaching process (Taşkıran, 2017). Digital competence was defined as a crucial ability for teachers to develop the teaching methods in line with the current conditions (Parlak, 2017). Digital transformation had the profound effects on teaching, regarding as a framework for the teacher training reform and quality developing of digital teaching (Balyer & Öz, 2018).

The digital literacy (e.g., internet platforms, social media, and electronic devices) is a vital skill for the 21st century education. The teachers should be the digital educators in the process of teaching and learning because the teachers need to use the digital technology, such as digital ability, literacy, and skills. This study aims at examining the teachers' perceptions on digital transformation into teaching in Cambodia. Digital teaching transformation is a hot topic, which has aroused the researcher's interest in doing research to develop the quality of digital teaching and the methods of teaching and learning. Thus, this research examines the teachers' perceptions on digital teaching transformation in Cambodian education context.

2. Literature Review

2.1 The Digital Teaching Development in the 21st Century

The development of digital education, globalization, and technology influenced the changes and improvements of the digital teaching and methods of teaching and learning (Bates, 2015). Sisman (2016) highlighted the development of digital technology contributed to the out-of-school and lifelong learning. Digital transformation involved individual needs for

developing the teaching (Balyer & Öz, 2018). With studies on digital transformation in education focused on technological knowledge and digital skills, teachers needed to have digital capabilities that helped develop the teaching methods. Paulo (2020) argued that digital competence was the use of technologies, data managing, information sharing, digital transformation, and use of ICT in the process of teaching and learning. Paulo also asserted that the digital skills were the goal of teaching, which improved the teachers' digital capabilities.

Integrating the educational technology was to focus on school identification and individual factors that explained the process of transforming the education system into digital education (Dirk et al., 2021). Paunescu, Lepik, and Spencer (2022) argued that digital technology connected people to the internet and provided data and search platforms of rich data. Digital transformation focused on the use of technology in the regeneration (Forrester, 2016; IDC, 2015), and it was the process of the digital creation and re-enactment of what was once analog (OECD, 2017; Raab & Griffin-Cryan, 2011). The digital transformation of HEIs was ongoing and part of the digital process in education and affected education, such as structure, teaching and learning environment (NV, 2017). Balyer and Öz (2018) argued that digital teaching transformation was a framework for education system and the need to develop the quality of digital education and the development of teaching and learning methods.

Digital technology contributed to the development of education quality, focusing on the use of digital and internet, the use of computer technology, online experimental learning, collaborative learning, and the integration of digital technologies in teaching and learning process (Paulo, 2020). The integration of digital technology supported the teaching process, and it aimed at providing the insights into how education systems were changing through the adoption of digital technology (Dirk et al., 2021). Dirk et al. further highlighted the transformation of digital education from the media education perspective reflected and supported education in the process of transforming the digital from a performance-oriented education and media perspective. By using the existing ICT devices, higher education institutions were driven by the new ways of collaborating to create and share knowledge and resources that led to innovation and growth of digital transformation, which helped improved the education quality, especially the teaching development (Paunescu et al., 2022).

2.2 Transforming Digital into Teaching Development

Digital transforming helped the education institutions with the digital strategy in achieving the intended goals. For this reason, the digital transformation was used as a whole and change by implementing the digital thinking and using frameworks allowed educational institutions to manage digital initiatives and approaches (Silva, 2017). Digital transforming was important in developing the digital strategies for education systems, facilitating the teaching process, controlling the use of ICT in teaching, and creating the digital infrastructure in education, such as internet access, digital tools, and digital teaching and learning environments (Paulo, 2020). Yureva et al. (2020) argued that the vision for higher education was directly linked to the process of digitalization in line with the global trends of digital society and digital economy. With the increase of digital transformation, the educational institutions embraced the new technologies and changed teaching practices and processes. In the higher education, digital transformation was a testament to the development of the advanced and effective methods and practices in pursuing the higher education mission in terms to develop the teaching quality (Alenezi, 2021). Alenezi also elaborated on digital transformation and education that were inextricably linked as the integration of digital technology and higher education.

2.3 Importance of Transforming Digital into Teaching Change

Digital transformation was a digital strategy that helped educational institutions achieved their intended goals. Today, the higher education institutions were under pressure to provide the new and innovative digital-experiences for stakeholders (e.g., education administrators, teachers, and students). For this case, educational institutions must examine digital as a whole and change by implementing digital thinking and using the frameworks that allowed educational institutions to manage all digital initiatives and approaches in the teaching process (Silva, 2017). The digital transformation provided the importance in developing the digital teaching strategies and methods, particularly improvement of teaching quality (Paulo, 2020). Transformation of the digital technology supported the teachers' teaching process - providing teachers with rich teaching resources and being able to turn teaching and learning into the digital classroom practice.

Digital transformation embraced new technologies and changed the digital teaching practices and processes (Yureva et al., 2020). The digital transformation was employed in higher education was a testament to the development of the advanced and effective teaching methods and practices in pursuing the mission of higher educational institutions (Alenezi, 2021).

Alenezi said that the digital transformation benefited the development of teaching and learning methods and the development of teachers' digital skills (ICT soft-skills).

3. Methodology

This study used the mixed methods-research (Ivankova & Crewell, 2009), combining the qualitative (Denzin & Lincoln, 1994) and quantitative (Hsieh & Shannon, 2005) research-methods for collecting and analyzing data. This paper employed questionnaires (Graesser & McMahan, 1993) and face-to-face interviews (Masadeh, 2012) for gathering the research data. Content analysis method (Hsieh & Shannon, 2005) was used for analysis of qualitative data (e.g., face-to-face interview data), and descriptive statistics analysis (Biecek & Burzykowski, 2021) was employed for the analysis of quantitative data (e.g., data of questionnaires). This study selected 375 samples from 25 high schools in five provinces through the random sampling method. These high schools located in the provinces, such as Siem Reap, Tbong Khmum, Kampong Cham, Kampot, Takeo, and Prey Veng. These samples were selected to examine their perceptions on the effectiveness and impact of transforming digital teaching in the Cambodian education context.

Before starting the questionnaires, the researcher conducted the orientation to present the purpose and topic of research. After presenting the research topic and objectives, the researchers distributed the questionnaires to 375 participants in responding the designed questions. Answers of participants were collected for quantitative data to examine the effectiveness and impact of transforming digital teaching influenced the process of teaching. After two days of conducting the questionnaires, researchers selected 25 teacher samples for an individual interview by using the structured interviews. The answers of 25 interviewees were collected for qualitative data to determine the perceptions of transforming digital teaching in the Cambodian education context.

Questionnaires and structured interviews were analyzed for interpretation of the research results. Questionnaire analysis was used by the descriptive statistical analysis to examine the impact of transforming the digital teaching in Cambodian education context. The quantitative data were analyzed by using SPSS to examine the mean of each hypothesis. Instead, the analysis of structured interviews was used as a contextual analysis to determine the perceptions on the effectiveness of transforming the digital teaching in the Cambodian education context.

The research ethics was demonstrated by providing the personal safety to the individuals and identities of participants in this recent research. In this

sense, researcher's ethics really maintain safety of individuals to participants with quality and efficiency. Therefore, a well-conducted study required the presentation of research methods, clear data collection tools, data collection methods and appropriate data analysis methods and research ethics.

4. Findings

4.1 Teachers' Perceptions on Transforming Digital into Teaching

This highlighted the teachers' views on digital teaching transformation in the context of Cambodian education. Teachers said that digital was "E-learning software", which was used for teaching. Teachers pointed out the digital technology, which referred to "computers, smartphones, and tablets." Teachers were of the view that the digital transforming was a "technological change" in the modernization era. With the results, digital teaching referred to "teaching process, which used the technology." Teachers proved that the transformation of digital teaching was the "transforming the teaching process by the use of digital technology." Likely, the teachers argued that, the teachers might have the "digital ability in teaching." The results of this research showed that the teachers should be "proficient in digital skills of technology in the process of teaching". Accordingly, the teachers said that transforming the digital teaching provided several benefits to the teaching development, such as "facilitating the teaching process, development of the teaching methods, improvement of the teaching quality, and insurance of the teaching effectiveness.

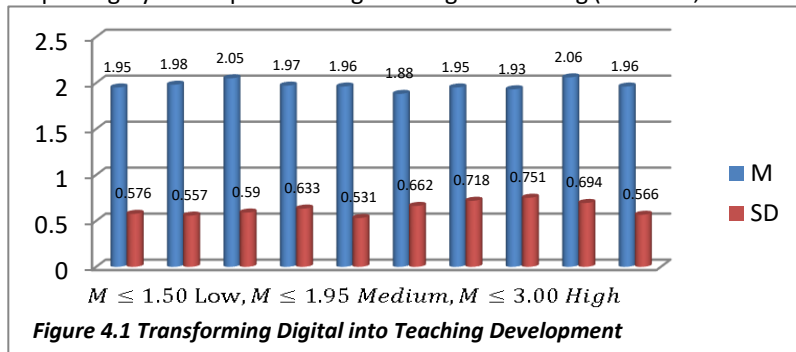
4.2 The Effectiveness of Transforming Digital into Teaching Changes

This point indicated the views on effectiveness of transforming digital into teaching changes in the context of Cambodian education. The research results stressed that the digital transformation helped teachers know "how to use the digital technology in the teaching process." With this digital technology, the teachers understood of "the use of digital technology in the teaching process." The teachers argued that transforming the digital teaching proffered teachers the "deep understanding of and development of new teaching methods and approaches through digital technology." Teachers revealed that transforming the digital assisted teachers to have the "digital skills of technology to process teaching." The results showed that the digital transformation provided teachers with the "development of teaching ability, methods, strategies, approached, and quality."

4.3 Impact of Transforming Digital into Teaching Development

Figure 4.1 described the impact of transforming digital into the teaching development in the context of Cambodian education. The research results indicated that the transformation of digital teaching contributed to process

digital teaching moderately ($M = 1.95$, $SD = 0.576$). Transforming the digital facilitated and helped better the teachers' digital teaching methods with the moderate ($M=1.98$, $SD=0.557$). As shown in Figure 4.1, Digital transformation helped highly develop the strategies of digital teaching ($M = 2.05$, $SD = 0.590$).



With the results asserted in Figure 4.1, transforming the digital teaching contributed to the development of digital teaching approaches with medium ($M = 1.97$, $SD = 0.633$). Transforming on digital teaching provided teachers with understanding of and know how to apply digital technology into the teaching process with little advance ($M = 1.96$, $SD = 0.531$). The research results showed digital transforming helped teachers moderately modernize and integrate the digital teaching methods and approaches ($M = 1.88$, $SD = 0.662$).

Figure 4.1 proved that digital transformation contributed teachers to moderately improve the ability of digital teaching ($M = 1.95$, $SD = 0.751$). The results showed that transformation of digital technology helped advance the digital skills of teaching with the intermediate ($M = 1.93$, $SD = 0.751$). As highlighted Figure 4.1, transforming the digital highly contributed to the development of digital teaching quality in the Cambodian education context ($M = 2.06$, $SD = 0.694$).

In brief, transforming the digital benefited teachers in bettering the digital teaching methods, strategies, approaches, capacity, and quality, and it contributed to enhancement and development of digital education quality ($M = 1.96$, $SD = 0.566$).

5. Discussion

5.1 Perceived Factors on Transforming Digital into Teaching Improvement

Digital transformation is a process of technological development, in which it facilitates the process of digital teaching and learning in the 21st century. Digital teaching refers to the use of digital technology in teaching (MoEYS,

2021) to contribute to development of the teaching and learning methods. Transforming on digital education (Hang Chuon, 2021) is education that uses the digital technology for teaching and learning process. Transformation of digital teaching is an important mission for educational institutions (Dirk et al., 2021) to improve the quality of teaching in the context of Cambodian education. Technological system, including Wiki School, E-school, Facebook, Google Meet, Zoom, Microsoft Team, and beyond, is the digital that serves digital teaching process. Digital teaching transformation helps the teachers develop the methods, strategies, and approaches of digital teaching and learning. The transformation of digital teaching is the necessary factor in the development of curricula at all levels and quality assurance of the digital teaching in Cambodia, especially the quality of digital teaching and learning. Therefore, transforming digital teaching is a digital teaching policy, which is adopted to increase digital teaching knowledge and capabilities, improve the teaching and learning quality, and reform process and approached of digital teaching.

5.2 Digital Transforming on the Quality Improvement of Digital Teaching

Digital transformation is a digital technology that is constantly evolving to contribute to development of digital human resources. Digital competence (Parlak, 2017) is a part of digital transformation that helps teachers better the teaching methods. The digital transformation has had a profound effect on digital teaching (Balyer & Öz, 2018), such as facilitating the administration, finance, human resources, teaching and learning.

Digital transformation plays an important role in the quality development of digital teaching and learning, reform of digital teaching, improvement of the digital teaching quality, and betterment of the digital teaching methods and strategies. Digital teaching transformation contributes to help teachers or educators gain a deeper understanding of digital technology and develop new approaches that are in line with the digital era of the 21st century. Hence, digital transformation is a contribution to improvement of teaching, reform of digital teaching, and development of digital teaching quality.

5.3 Effects of Transforming Digital into Process of Teaching and Learning

Digital is a technology that has been developed for use in the jobs, such as teacher-training and educational quality reform. Digital transformation is important for teaching, particularly the digital teaching and training. Digital transformation helps develop the teachers' digital capabilities (Paulo, 2020) in facilitating the process of assessment and information and/or sharing information in the teaching and learning process. Digital is a technology with digital processing (NV, 2017) in digital teaching.

Digital transforming is transformation of digital technology that enhances and develops the digital teaching quality through integration of the digital technology and traditional teaching. Digital transformation contributes to the process of teaching and learning, such as the development of teaching and learning methods and help in improving the quality of digital teaching. Digital transformation plays a vital role in enhancing and developing the quality of digital teaching and learning, especially the quality development of digital education. Digital transformation provides education mechanisms and policies that lead to the quality development of digital teaching and education.

Thus, digital transformation proffers several benefits to the digital teaching process, including development of digital teaching methods (e.g., Distance teaching, E-teaching, Digital teaching), the development of teachers' digital ability and skills, curriculum reform, and quality development of digital teaching and education.

6. Conclusion

This study explored the digital teaching transformation in developing the teaching methods, enhancing the quality of digital teaching, and ensuring the effectiveness of digital teaching. The findings addressed that the digital teaching transformation contributed to helping teachers better the methods, capability, literacy and skills of digital teaching, providing mechanisms for the digital teaching reform, reforming the digital curriculum, improving the digital teaching quality, and ensuring the effectiveness of digital teaching. Greatly, this research benefited to digital teaching, including development of teaching and learning methods, the advance of digital competencies, and the quality development of digital teaching. Integration of digital teaching is a mechanism for the digital teaching transformation to contribute to the development of curriculum and the quality improvement of digital teaching. Digital teaching transformation is a process of transforming and developing the digital technology in the process of teaching. Therefore, the integration of digital teaching is essential for teachers with both theories and practices, especially for the educators to reform and develop the curricula, methods of digital teaching, digital competencies, and quality and effectiveness of digital teaching in the 21st century.

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