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Leading Role Models for Digital Education Transformation in Thailand

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ABSTRACT

The increasing use of technology, smart devices, open-source resources as educational tools have transformed learning landscape. Technology is not only essential in daily routine but it is necessary for digital education. The empowerment through technology in education is boundless. It requires extensive effort of course design in creating interactive, engaging, meaningful, and personalized learning experience. As a result, the empowerment promotes self-development and lifelong learning. While many educators in Thailand resisted to adopt technology prior to the COVID-19 pandemic, increasing number of educators were struggling with digital teaching environment during the pandemic. Now that Thailand is approaching the post-pandemic, the researcher was able to discover leading models among educators and learners that set an example for others to take leap of digital transformation. These leading educators are able to use the curriculum as a resource to spark the students' interest and introduce rigorous course contents, assignments, and assessments applicable to the need. Student-centered approach is creating an ownership among learners of which they must take ownership over their learning. Lathan suggests that a blend of teacher-centered and student-centered learning styles are necessary depending on the situation, circumstance, and condition. The examples discussed in this paper will illustrate how this astonishing group of educators and learners thrive in the digital education transformation despite the obstacles that Thai education system was struggling to make such transformation.

Introduction

It is undeniable that technology is an essential element of life. Most Thai citizens possess at least one smart device or mobile device. This small device holds so much power in finance, health care, network, and even education. Through the Internet and mobile communication, a device is connected the owner to the endless opportunities in virtual platforms that are digital in nature. Search engines are the crucial medium where the knowledge meets the right learner. Abundance of free contents that are informational and educational have become an Internet library that holds more than the national libraries' collections of all countries combined. The sources of knowledge no longer reside within institutionalized education entities but rather individual contributors play key roles in sharing and exchanging knowledge, experience, and skillsets. This virtual platform offers tremendous learning opportunities within reach of anyone that is an active seeker of information.

Challenges lie within the formal basic education that such a rigid structure and a long-established culture is impeding the technology adoption among educators in schools. If social distancing measures were not put in place during the COVID-19 pandemic, not much would have been done to amend Thai education system. As much as the crisis of the pandemic brought a catastrophe to Thailand and the education system, we still owe the crisis a gratitude that triggered the transformation into digital education more willingly with minimal resistance to integrate digital platforms into teaching and learning. Without the crisis, educators do not feel the need to transform the education in reflective of digital environments. The government has been introducing long distance learning and digital learning since 1996 with distance learning television program. By 2015, distance learning information technology platform was launched but the platform was not popular of use prior to the pandemic. Upon school closures and social distancing measures were put in place, Ministry of education was rushing to develop office of the basic education commission content center in coping with the crisis by providing 24 hours technical support for users. As a result, digital education was adopted as no other viable option was appropriate to the pandemic circumstance.

Several studies on digital platforms in education have been conducted prior and during the COVID-19 pandemic. Sanjaiprom (2021) assessed the readiness of online learning in Thailand prior to the crisis. Few studies made a statement that it is time for a change and a redesign of the educational system and culture must be taken seriously to transform Thai education into the digital era. Despites the barriers and challenges that educators are facing to lead the transformation, the study found several astonishing role models among educators and learners that defy the norm. The empowerment they lead to digital transformation of education in Thailand is paramount. The digital transformation is made possible because of their dedication and devotion. This paper is structured as follows: the introduction, the literature review, the methodology, the findings, discussion of findings, and the conclusions and recommendations.

Literature Review

The paper applies four main concepts into a research study focusing on: virtual learning, engaging experience, student-centered approach, and digital environments.

According to Villegas-Ch, Palacios-Pacheco, Roman-Cañizares, & Luján-Mora (2021), educators are the key actors that dictate learning and study materials. Students are influenced by their teaching and delivery methods. Teachers can make the classroom engaging and interactive or tedious and outdated of which affects the students' interest in learning and

development. Pandit & Agrawal (2021), discussed four online teaching practices: pedagogical, social, managerial and technical practices. An ability to pass on knowledge falls under pedagogy. Social aspect involves psychological motivation under digital environment. Managerial practice is time and course management to maximize the resources spent during the session. Technical skillset is digital literacy capability to learn and update to current advancement of technology. Ashour, El-Refae, & Zaitoun (2021) added that creative assignments and delivery methods can help boosting students' performance. Policing students' culture is not suitable for online teaching and learning. A mixture of different digital features such as discussion posts and group chats after class sessions can help students review the topics of learning and ask questions that may arise after online interactive time of study (Neuwirth, Jović, & Mukherji, 2020). A positive learning climate must be introduced by educators to encourage participation and active learning experience (Simmons, 2021). Teachers can utilize other resources outside of the curriculum to supplement their teaching of which they can optimize learning experience by using other attractive resources to motivate students and teach them self-learning (Chu Reynolds, Tavares, Notari, & Lee, 2017).

Dimopoulous, Koutsampelas, & Tsatsaroni (2021) stressed parents' involvement is crucial in the success of online learning. Not only students are in need to be trained by the schools, parents are also in need to be trained by educators. Training sessions for parents should be conducted at the schools after hours or convenient hours that parents can attend. Pandit & Agrawal (2021) recommended that educators and students make an establishment of netiquette to create a mutual understanding and agreements of acceptable and appropriate online behaviors. Simmons (2021) added that strong relationships with parents can assist students' learning experience and expectation of digital education.

Bayne & Gallagher (2021) emphasized that learning experience is more crucial than assessments in designing student-centered classroom. Quizzes and examinations should be designed to test the students' understanding of the materials, or how they can apply their knowledge into different situations, or expand on their knowledge into other disciplines. Tests with memorization method should be eliminated in all. Diversity and justice are among the values that must be enforced at schools (Bayne & Gallagher, 2021). Inclusion across all aspects of humanity is building a nation of citizens that are nonjudgmental when facing circumstances in their adulthood. Eventually, the nation will be built to unity rather discrimination. This aspect is critical when students are being exposed to worldwide information via online platforms.

Digital literacy is a survival skill that all citizens must have and keep up-to-date to thrive in the digital era (Eshet-Alkalai, 2012). Not all educators are proficient digitally but they can learn and co-learn with students to provide meaningful exchanging of knowledge.

Methodology

This study utilized a qualitative research method with primary data from conducting focus groups, interviews, and observations. The secondary data was collected from publication and literature reviews in findings relevant documents in alignment and in arguments of the research purpose. Total of 18 in-depth interviews and 2 sessions of focus groups were conducted with a total of 26 interviewees from public sector, private entities, and non-profit organizations. All interviewees are working on digital education platform or are involved in such format of teaching and learning.

Findings

The researchers were able to find several role models of educators and student depicting the futuristic characteristics of the 21st century digital educators and learners, that thrive in the

digital ecology regardless of the obstacles and barriers that were put in place to deter them from transformation.

The first role model of educator is an older teacher teaching technology including programming from grade 7 to grade 12. The teacher is within 5 years of retirement and is full of enthusiastic passion in teaching and learning. The teacher recognized that students in the digital era are distinctively different from previous generations that the teacher has taught. The teacher makes sure to stay tune with technological advancement of social media, blogs, and programming languages. This characteristic shows that this teacher recognizes the gap of digital proficiency between the teacher and the students due to generation gaps. Therefore, the teacher is able to bridge the differences and create an interactive teaching and learning session. With passion in teaching and being an educator, the teacher continues lifelong learning periodically throughout the teacher's career. Studying at own will on own time with out-of-pocket expense does not deter the teacher's motivation to transform oneself into a digital citizen. This practice reaffirms connectivism education theory that one must continue learning to thrive in the digital environment. This teacher designs projects and assignments applicable to real life situations such as having students writing C coding to control irrigation at home, creating html website for online stores, creating page on social media, and extracting data from visitors' clicks, visits, and browsing behaviors. Students then can relate to the course materials and able to apply their skills to other aspects that are relevant to them. The learning material then is easier to comprehend as students internalize their knowledge, understand, and apply their learning to applicable real-world situations.

The second role model of educator is a young teacher teaching a high school level in mathematics. This teacher was recently employed as a full-time teacher at a public school. With closer age gap to the students, this teacher is able to build strong relationships with students and connect with them at personal level. The students feel more comfortable to voice their opinions, provide suggestions, and ask questions when attending the physical classroom session or online. The teacher tends to have high participating rate with almost no black screen during online teaching sessions. This teacher utilizes other resources such as https://www.brainingcamp.com/ to assist in teaching mathematics. The interactive online resources allow this teacher to create fun, interesting, interactive, and virtual environment for students to explore mathematics outside of the textbooks and guidelines provided from the Ministry of Education. The teacher also conducts a survey online of which students can remain anonymous to provide feedback of the attended classes as well as in-class feedback for those students who are not afraid to provide comments during the session. This teacher is able to propose an integrated assignment for students partnering with other teachers teaching other subjects such as social study, sciences, and other languages (English, German, Chinese, Japanese, French, etc.). Each respective teacher participating in the integrated assignment will assign the grade pertaining to applicable subject area. This type of assignment is a holistic project that students get to apply their knowledge into interdisciplinary work. Critical thinking, data analysis, open-ended topics are introduced to students as they sharpen their skills to broaden their knowledge and development.

The third role model of educator is a veteran in computer and technology related courses. This teacher has an experience teaching middle and high school students. The teacher often assigns homework with real world application and ensure logic thinking and reasoning are introduced and taught to students to develop their thought process and decision making. One such example is the sequential order to complete a 1000-piece puzzle. Students must show a step by step of how they plan to finish this puzzle. Some may start with border first. Some may

want to group puzzles with similar colors. Some may start randomly. Then, this step-by-step assignment is turning into a coding assignment where the students must write a code to complete the project. Students who have unsystematic thought process will realize that writing a program requires certain conditions to be met. Certain conditions require a predecessor or a parameter to hold true. Some may require a looping of iteration depending on the circumstance. The teacher is not intending to have the students become proficient in programming language but trying to teach the thought process of reasoning and critical thinking so that students can learn to think and analyze the problems that are placed in front of them.

The fourth role model of educator is a primary school Thai language teacher. This teacher is using different style of teaching as the students are younger. Their attention span is short and requires more incentives to motivate them to learn and participate. Little tokens such as treats or small stationary supplies can trigger interactive class session. Due to the nature of the online format, younger students still require some levels of parents' or guardians' oversight during the online sessions. While not all parents are available to accommodate the students' needs, the teacher groups the students into different family circumstances. Students with high parents' involvement are usually the ones that perform well in class regardless of the teaching formats. Students with low parents' involvement are the ones that the teacher may need to ask parents dropping them off at school to catch up on the study materials. A house visit is even necessary as some of this teacher's students are unable to attend online classes at all. The most astonishing assignment given by this teacher is to write a poem on the Mother's Day in the midst of the pandemic. The student must turn in an assignment as a recoding video clip of the student reading the poem to the mother. This is a creative assignment to build a bonding moment between a student with the mother and to have a parent being involved in the learning process. The mother then is asked to grade her own child's assignment and provide feedback on the poem. This is essentially a tool that the teacher uses to have parents' involvement and be aware of the student's progress in the class.

While the majority of the role models lie among educators in creating transformative education in the digital era. The researchers were able to find an exemplary student of the digital era. This student is a high school student who has received an acceptance letter from the faculty of education at Chulalongkorn University. The student has a passion in English and self-taught English language through online open-source resources particularly through Khan Academy. The student even volunteered as a team member helping translating Khan Academy contents into Thai. The student has excelled in academic performances mainly due to international open-source resources that the student can learn outside the current curriculum. The passion of learning leads the student to become an active learner. This active learner has an ability to converse English fluently even the student has been attending a public school from kindergarten to high school. This active learner also develops the ability to self-taught. Therefore, self-learning through digital contents become the learning routine to stay current the skill to advance one's development.

All exemplary leading models of educators and learners share one thing in common, they are active digital citizens that keep up with the continuation of digital education. Learning does not stop once the classroom session is over, learning is an ongoing accumulation of knowledge that is boundless beyond academic context. Digital education transformation is achievable only when digital citizens recognize the opportunity within the digital world of education, maximize the knowledge learning and sharing, and be adaptative to the digital advancement of the technology.

Discussions

The researchers were able to use the leading model examples to illustrate the connectivism education theory that depicts the current teaching and learning practices in the digital era. Prior to connectivism education theory, the students are considered receivers of knowledge and information (Western Governors University, 2021). The passive learning culture then has been a custom of education that when the digital adoption must be implemented; a change to such long established passive learning culture is hard to unlearn. The active learning approach then requires an endless effort of all stakeholders to create the transformation. Nevertheless, the forefront leaders of such educational transformation will be the early pioneers in creating digital environments for learning. They have proven that digital transformation is achievable.

In the example of the first educator role model, the teacher illustrates that a traditional teaching approach can be changed as people evolve with technology. It is now the educator's role to provide guidance in students' learning and personal development (Western Governors University, 2021). Through the effort of self-development, the teacher is the prime role model for connectivist learning that accurate and up-to-date knowledge must be attained routinely. Continual learning is a lifelong aspect of learning that empowers one's ability to thrive in the digital environment (Western Governors University, 2021). This teacher never stops learning and continues to learn even it takes personal time and budget to be a lifelong learner. Tavenner (2019) advocates for project-based learning as it is the most effective learning strategy to improve the students' cognitive skills. The offering of relevant real-life projects can generate interest, interactive, and engaging learning experience for students. One such example was the project with Python programming language. One student asked if Python coding can be used in the project assigned by the teacher. Not well verse in Python, the teacher did not hesitate to take the student's request and co-learned the Python language with the student. Upon a completion of the project not only the student obtained new skill of programming, this teacher also gained the new knowledge.

The second educator designs the integrated assignments that are pertaining to connectivism principle that the students can create their own learning experience, engage in decision making, and sharpen their skills. This teacher fosters students' socio-emotional skills that substantially promote safer and more responsible uses of digital technologies. This teacher shows that the school culture is supportive of the teacher's professional growth, constructive feedback, and mentoring or coaching environments (OECD, 2018). This teacher is a former student of the first educator role model and affirmed that the support system from the first teacher and the family play a key role to this teacher's ability to thrive in the digital environments and be creative and influential in digital education. According to Tavenner (2019), mentoring is one of the core personalized learning approaches that provide guidance to students and offer growth opportunity that help strengthen the students' capacity in learning. This educator received a good mentoring support from the former teacher, therefore contributed to the succession of this educator once become a teacher. Students' feedback from courses allows this teacher to assess students' satisfaction and contribute to the further development of course design and delivery. Hence, this teacher demonstrated good practice of the digital educator.

The third educator demonstrates a connectivist viewpoint on educators' role in education. This teacher has designed the assignment to help students develop their own lifelong learning skills and habits. The students must own their learning responsibilities that build them to become effective digital citizens (Underwood, 2016). Similar to a video game, the students interact with the educational world digitally to attain knowledge. To make the most of

digital teaching and learning, students must be equipped with a range of fundamental skills aside from digital literacy (OECD, 2019). Strong literacy, critical thinking, problem-solving skills are traits that this educator is aiming to teach students to support their ability to succeed in technological-rich environments.

Despite a progress in the Internet and wireless communication, reliable connection is not yet accessible to all learners. The fourth educator has faced such challenge and adapted the teaching style and delivery accordingly to the situations of the students' technological readiness. Some students' families cannot even afford a smart device to attend online classes, the teacher even went above and beyond in providing or lending a smart device to overcome such barrier. The fourth educator is attempting to build parents' digital skills through students' assignment. Through a creative design of an assignment, the teacher is able to evaluate the family's readiness in digital infrastructure and skills in assisting students to complete their tasks. The teacher then can raise an awareness on parental digital skills that are in need to support the students' education. The teacher has built strong relationships with the parents so that the teacher can ensure the students can succeed given parental capacity for digital adoption (OECD, 2023).

The learner leading model confirms connectivism education theory that learning can happen outside of an institutionalized context such as through open-source resources or even through social media. Connectivism embraces "individual perspectives and the diversity of opinions, theoretically providing for no hierarchy in the value of knowledge" (Western Governors University, 2021). Therefore, the learner is not limited to the learning role. The role can shift to become a knowledge provider. The volunteer work that the student was involved in creating Khan Academy Thai contents is a prime example that demonstrates such condition. Tavenner (2019) promotes self-learning process that each learner must have to flourish in the digital era. This learner illustrates such outcome that one can learn through technological mediators and self-develop to be proficient in a subject matter outside the curriculum.

Conclusions

"Digital technology has become a social necessity to ensure education as a basic human right" (UNESCO, 2023) particularly in a current situation of more crises tend to arise from unforeseeable events. During the high tension of the pandemic, Thailand suffered great losses to learning opportunities that many students are currently falling behind by a few academic years. Insufficient infrastructure and accessibility for some students left them vulnerable to seek opportunities outside the traditional channel of education. The disruption that Thai educators faced during the pandemic clearly revealed urgent calling for a transformation in education system and curriculums to build resilient, engaging, and support learning system suitable for the digital advancement. UNESCO (2023) is supportive of open educational resources that are free and accessible to anyone. Citizens around the world must acquire digital skills to enable themselves in transforming into digital citizens. Technology integration in education has proven itself as the hero to the schools' disruption and closures to facilitate educators in continuing their teaching in time of crisis.

All leading models illustrated that effective use of digital technologies can empower students and offer high-quality education. Adaptation of teaching approaches and assignments will promote interactive learning experience (OECD, 2023). While not all teachers and learners are proficient in technology to the levels of the study's examples, the encouragement of technological adoption and integration is essential for all stakeholders in education system. Building the confidence in human resources and providing adequate trainings to educators can enhance their digital ability to grow (OECD, 2023).

In alignment with connectivism theory, education is now an everchanging digital environment that one must keep up with the knowledge of the changing world (Western Governors University, 2021). Access to digital education will become fundamental to the new era of education. Lifelong learning that is evolving from a traditional approach has been introduced by a rapid changing of technological advancement and so does education.

There is no one size fits all approach of teaching and learning through digital education. Adaptation to given circumstances is necessary under the digital environment for both educators and learners to sustain teaching and learning effectiveness. Educators and learners who are empowered to put digital technologies to effective use will reaping the most benefits that digital education can offer. As such more opportunities are necessary to develop their capacity to effectively engage in digital education so that the remaining population of educators and learners can maximize their teaching and learning experience.

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