A Proposed Educational Technology Standards of Thailand

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Abstract

Educational technologist performs as a catalyzer in supporting active and effective learning in an educational system. In Thailand, Educational technologists' roles are delineated in the Chapter IX of 1999 National Education Act 1999 that were practically media profession who analyze, design, develop, and deliver media in a teaching and learning system such as radio, television, text book, and printed media, as well as all types of communication technology, while using research as a tool in the process, and practical professional development as well. None of the study has been done to solid instructional technology standards and its proficiency in Thailand. To strengthen the field of instructional technology, the study is aimed to research standards and competency for Thai instructional technologists.

The study was employed by systematic reviews of current research and existing competency standards of educational technology after year 2010, coupled with an in-depth interview with experts in educational technology filed. The major standards of revision were retrieved from mainly organizations in the United States including: Association for Educational Communications and Technology: (AECT standards, 2012), the International Society for Technology in Education (ISTE standards, 2016), and including such as ISTE Standards for students (2016), and including major standards modified on the basis of ISTE standards namely the Washington State K-12 Educational Technology Standards, and Michigan Educational Technology Standards.

The study was found the proposed educational technology standards including six areas: 1.profound knowledge in technology and its adaptation to education, 2. system design, 3.professional development, 4.learning environment, 5. research and ethics, 6.localized and globalization. The proposed standards should be further developed and will be a potential countrywide implementation.

Keywords: educational technologists, educational technology standards, Thailand

Introduction

The rapidly changing world of today's transition to the digital age has had an impact on human society in all areas, so that we can adapt to those changes in order to survive sustainably. It can be said that the advancement of technology affects the work system in all professions, which face the challenge of change. Like the educational technology profession. Educational technologists are one of the top professions that play a role in the development of education. This is to facilitate and support the educational system and teaching for teachers to improve the learning of students to be effective.

The literature review found that educational technology standards were not developed or improved from the main organizations of the educational technology profession. It is only the research of graduate and doctoral students who develop the standards and competencies of educational technologists. There are a few and over 10 years of research that show the lack of continuous development and the lack of awareness of the importance of the profession that affects the role of educational technologists in the society. This has led to the development of standards of educational technologists. This problem has been the same as many educational technologists in many countries. In fact, educational technology plays an important role in supporting the development of change in the way that the educational system is good. On the other hand, they often have less role in society. This is due to the lack of a clear professional structure (Fox and Summer, 2014), or it can be said that this is a concern for the overlap of educational technology roles. (Browne and Beetham, 2010) This concern has occurred with broader educational technology. Research has reported that the challenges of 21st century technology educators affected by the advances in technology. How will they guide their educational goals? In addition, the development of the technology used in the teaching and learning of teachers to improve the knowledge and skills of students (Mayes, Natividad, and Spector, 2015). From this problem, the study is aimed to research standards and competency for Thai instructional technologists.

The development of educational technology standards is a positive impact on the professionalism of educational technologists in improving the performance, strengthening the educational professional organizations.

However, the development of such standards should be continued for sustainable professional development. This will be beneficial for the development of Thailand's education, which affects the learner's ability to continue.

Literature Review

Educational Technology Standards in Other Countries

For the development of international standards, the researcher has studied the standards of educational technology of AECT (2012), which has been defined five standards as follows: standard 1 content knowledge, standard 2 content pedagogy, standard 3 learning environments, standard 4 professional knowledge and skills, and standard 5 research. AECT is one of the world's leading educational technology providers, and Thailand is also one of the members of AECT. Therefore, a trend study of AECT technology standards is necessary.

In addition, the researcher has studied the standards of the International Society for Technology in Education (ISET) is a not-for-profit organization focused on providing all educators with the ability to control technology to accelerate innovation in instruction and inspire learners to achieve high potential. It has developed standards for educational groups, including educators, coaches, teachers, and learners, details are as follows.

ISTE Standards for educators (2017) is a standard that encourages learners to have greater potential for learning. It also promotes peer collaboration and interaction with other educators in finding new approaches. The development of various areas to support the learning of the students to the highest efficiency. It consists of 7 standards, the first standard is a developer of continuous learning, technology and creation and participation in local and global learning network, standard 2 is a leader in driving a visionary advancement in developing digital learning and learning that is equal to the student's success, standard 3 is a positive inspiration for learners in the digital world, standard 4 is a collaborative effort with others, using concepts, solving problems using technology, new digital resources to create a real-world learning experience, standard 5 is a truly learning activity designer by bringing tools, digital technology is used in many real-world environments, standard 6 is a facilitator of learning with the use of digital technology to support the development of learning outcomes of learners according to creative standards, and standard 7 is a knowledgeable and knowledgeable analyst who promotes alternative learning, designing and implementing multiple assessments to help learners achieve their learning goals.

The part of the ISTE standard for teachers (2008) is defined in five aspects. 1) Teachers use content knowledge, teaching and learning by using technology to encourage students to learn to develop their creativity,2 (teachers can design and develop learning experiences and assessments in the digital age,3 (be a professional teacher who demonstrates competence, skill and expertise in innovation, 4) teachers promote and define responsibilities for digital citizenship, and 5) teachers participate in professional growth and leadership. The ISTE standards for teachers have been applied in the development of standards for students in order to improve their learning in various areas to increase their potential.

Moreover, ISTE standard for student (2016) developed standards for learners by focusing on student-driven learning processes, consisting of seven standards 1) students use technology to demonstrate their potential to achieve their learning goals, 2) recognize liberty and rights, responsibility, opportunities of living, learning and working in the digital world, 3) value learning resources, especially digital tools, to be used in self-learning and others, 4) use a variety of technologies in the design process and solve problems to create new things, 5) develop and use problem-solving and understanding strategies with technology-assisted methods, 6) students can communicate creatively with digital tools and media, and 7) digital tools are used by learners to extend their perspectives and learning. It also works with others effectively in both local and global teams.

However, the ISTE standards are the model used by states in the United States, which will be adapted to the context of their own state, for example the Washington State K-12 Educational Technology Standards (2018) have seven standards. Apart from that, Michigan adopted the ISTE Standards for Students as competencies for technology integration (MITECS) during the 2017-2018 school year, there are also Kentucky standards for teachers. Other countries have also adopted the ISTE standards, such as Pakistan.

Educational Technology Standards in Thailand

The development of educational technology standards in Thailand has been developed, but is still very limited and lacking continuity. Educational technologists' roles are delineated in the Chapter IX of 1999 National Education Act 1999 That the importance of educational technology has been determined in seven areas as follows: Educational technologists are professionals in the media by analyzing, designing, developing and providing media services in teaching and learning systems such as radio and television, text book, and printed media, as well as all types of

communication technology, while using research as a tool in the process, and practical professional development as well.

The study or research on the development of educational technology standards or related is still low and lack of continuous development. However, there are also those who develop this. Thapanee (2003) has developed performance standard for educational technology in higher education institutions in Thailand consists of 14 standards and 84 indicators; 1) Instructional design and instructional development standard, 2) Instructional media design, 3) Educational technology training, 4)Research and development, 5) Internal and external assessment, 6) Educational technology diffusion, 7) Graphic media production, 8) Printed material production, 9) Video/television production, 10) Audio material/radio production, 11) Computer media production, 12) Education technology consultation service, 13) Instructional media and audio visual aids service, and 14) Planning and management.

In addition, Wasan et al. (2006) developed the national standard for educational technology for the institute of graduate study. It consists of 9 standards, 34 indicators as follows: 1) the institutional leadership in educational technology, 2) the curricular structure of teacher education program, (3) the technology infrastructure of educational technology, 4) the technology innovations fostering the instruction in teacher education institution, 5) the personnel in educational technology, 6) the faculty members' performance in educational technology, 7) the instructional models fostering the pre-service teacher students' uses of educational technology, 8) the professional experiences, and 9) the pre-service teacher students' performance in educational technology.

From literary review by analyzing, synthesizing the research papers related to the standard, it is shown that Educational technology standards need to be developed urgently and should be continually developed to create professional standards for technologists to be strong and up-to-date with the rapidly changing digital technology world. For the benefit of education systems that affect learners' learning and instructor effectiveness to maximum potential.

Research Objectives

The study is aimed to research standards and competency for Thai instructional technologists.

Research Methods

Researchers have developed a study on the development of educational technology standards of each organization both in Thailand and abroad as follows.
1. Study and analysis of educational technology standard documents for educational technologists as well as teachers and educational personnel of foreign agencies.
2. Develop a draft standard for educational technology based on the review of research and educational technology standards from organizations in other countries.
3. In-depth interviews with experts in the field of educational technology were conducted to gather information, opinions and expert advice on the drafting of educational technology standards.

Research Results

According to studies, it has been found that researchers can synthesize draft standards of educational technology has six standards, as follow.

Standard 1 Profound knowledge in technology and its adaptation to education has three indicators include: 1.1) profound knowledge of both theoretical and practical education technologies, 1.2) profound knowledge about education, 1.3) knowledge of new technologies.

Standard 2 System design has 2 indicators include, 2.1) design of teaching and learning system, 2.2) design of media system.

Standard 3 Professional development has three indicators: 3.1) expertise in media production skills, 3.2) leadership in new technologies applied in teaching, 3.3) be a consultant to develop learning by using advanced technology.

Standard 4 The learning environment has two indicators: 4.1) the development of a learning environment that uses technology in various ways, 4.2) the organization of a diverse learning environment based on real conditions.

Standard 5 Research and ethics have two indicators: 5.1) Applied research in education and educational technology, 5.2) Research in development of media, 5.3) Ethics of Educational Technology and rese.

Standard 6 Localized and globalization has two indicators: 6.1) the application of knowledge in the field of technology and the use of local networks, 6.2) the creation of a broader network to the global network.

In terms of in-depth interviews of experts with interesting issues, as detailed below.

Standard 1 Profound knowledge in technology and its adaptation to education. "Standards 1 should identify indicators of educational attainment in relation to teacher professional standards and student performance in Thailand as teachers and learners are key target groups for educational technology. Therefore, standards of educational technology need to be consistent with the standards and competencies of teachers and learners." (Experts 1, 4 and 5)

Standard 2 Design System "should include theories of learning, psychological theory, perception theory, media characteristics in design." (Experts 3, 4 and 7)

Standard 3 Professional development "Identify skills, expertise in thinking, creativity, use of all learning materials, and technology in advanced platforms." (Experts 2, 5 and 6)

Standard 4 Learning environment "The ability to utilize the atmosphere and suitability of the classroom and other learning facilities should be discussed." (Experts 3, 4 and 7)

Standard 5 Research and ethics "Standard 2 should focus on innovative research to be in line with the Thailand 4.0 policy and should include research ethics, progressive thinking, application and contemporary thinking." (Experts 1, and 3)

Standard 6 Localized and globalization "Identify the actual implementation. In accordance with the policy of Thailand 4.0, but consistent with the culture of culture in the context of Thai society."
(Experts 2, and 5)

In addition, experts have proposed that additional standards or clear indications be added.

1) Leadership standards should be added as most educational technologists play the role of a leader that is not as clear as it should be. Therefore, it should be defined as one standard that will improve the performance of educational technologists to a higher level. (Expert 2, 3 and 6)

2) The standard of the role counselor or facilitator of educational technology should be identified. (1, 3, 4 and 7)

Discussion and Conclusion

The standards developed by the researcher consist of six standards, 1, 3, 4 and 5, consistent with the AECT (2012) standards, but differ in their metrics and focus. Standard 1 Content Knowledge has a different focus: Standard: 1, which develops profound knowledge in technology and its adaptation to education, focuses more on the knowledge of the educational system that involves teachers. Next, standard: 3 professional development, for example, defines an indicator that identifies media production skills, being a consultant, and a technology leader, which are not the same thing. Standard 4: the learning environment is focused on the environment where technology is used to learn and the learning environment is realistic. And standard 5: research and ethics, the emphasis is on the name of the standard, the code of ethics, which shows the ethics is important and the research has two indicators, namely, applied research and development research.

While standard2: system design, conforming to standard 2 of ISTE For Teachers (2008) Some of the design, development, evaluation, and learning outcomes of learners. It does not mention the system. The standard 6: localized and globalization complies with ISTE standards for educators (2017) in Standard: 1 and Standard: 7 for students. However, based on expert interviews, some ideas need to be added to the standards that define the role of educational technology more clearly: the standards of leadership and the standards of counsel and facilitation. In accordance with the ISTE Standards for Teachers (2008) and ISTE for Educators (2017).

Conclusion

The standard of educational technology in Thailand consists of 6 standards; 1) profound knowledge in technology and its adaptation to education, 2) system design, 3) professional development, 4) learning environment, 5) research and ethics, and 6) localized and globalization Based on interviews with experts, it was found that the experts gave more suggestions on adjusting standards for greater coverage. The researcher has to take this effect to further study and make appropriate adjustments. The results of this study are consistent with the recommendations of the panel of experts to ensure that the educational technology standards are fulfilled before proceeding with the research.

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