Research studies on educational technology appearing in journal of education: A case study of Mahasarakham university

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Article Info	ABSTRACT
	This study aimed to synthesize research studies on educational technology published in the Journal of Education Mahasarakham University during the year 2016-2020. The samples used in this study were 34 published research articles on educational technology. Research articles were analyzed by identifying quality and essence of each research article, synthesizing the essence of whole research article to reflect a larger picture of research on educational technology, and discussion of recommendations. There are 34 published research articles divided into 16 articles of 2016, 2 articles of 2017, 14 articles of 2018 and 2 articles of 2020. All of 34 research articles submitted for publication can be summarize results into 9 issues. The body of knowledge gained from research articles which is a body of knowledge on educational technology.

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1. INTRODUCTION

Research article is an academic writing which has specified issues that need to be explained or analyzed clearly according to academic principles until being able to summarize the analysis results on that issue. It may be that knowledge from various sources to evaluate and compiled for systematic analysis where the authors express their academic views clearly. The academic article format is short and clear, consists of content that shows the reasons or source, need to explain or analyze the process and complete with summaries, references, and

bibliography (Garnt & Booth, 2009). The research article is a compilation and summarizes the research process to be concise and short for presentations at academic conferences or in academic journals and review article. It is a review of the progress of a particular subject by compiling and researching the findings in many research reports to synthesize new concepts or new knowledge (Hammond et al., 2020; Maeda et al., 2022). It also find the arguments on a particular subject to provoke criticism of particular subject which is necessary to compare them to find clarity on that matter.

Journal of Education, Mahasarakham University is a journal that disseminate a body of knowledge on academic works; academic article type, research articles/dissertations and book reviews, and also on educational quality development; teaching development and teacher professional development. The authors must strictly comply with the reference system and the criteria for the publication of academic or research articles. An article published is the author's opinion therefore, the editorial team does not always have to agree. Academic articles and research articles are open for consideration throughout the year, every article must go through the review process and proof corrections by editors and experts, then send it back to the author responsible for completing and clearing (Early, 2014).

The researcher interested in synthesizing research articles published in the Journal of Education Mahasarakham University during the year 2016-2020 to study the research article published in such journals have a scope of content tending in any direction, how many research articles on educational technology have been published in the past 5 years?, How to know research process, guideline and writing a body of knowledge? and what is the uses of this research in the community, society, education and educational learning innovation development?

2. METHOD

The synthesized research papers were published in the Journal of Education, Mahasarakham University during the year 2016-2020. The research method was quantitative synthesis to reflect information on research characteristics and qualitative synthesis by narrative and classification of research results into categories along with content synthesis.

Sampling design

The sample used in the research was educational technology article published in the Journal of Education, Mahasarakham University during the year 2016-2020 totaling 34 articles and criteria that will be used to select articles are as follows:

- It is a research article that in the field of educational technology.
- It is a research article of graduate students in the field of educational technology that has been published between 2016-2020.
- It is a research article of educational technology personnel who teach in the field of educational technology that has been published between 2016-2020.
- It is a sufficient characteristics research article to synthesize within the research article quality assessment form that created by the researcher.

Research Instrument

The instrument used in this research are research article quality assessment form created by the researcher for recording the details of academic articles for use as data in synthesis by year of publication, research characteristics, research type, research objectives, research objectives, research hypothesis, conceptual framework for research, Population/the sample, random sampling method, Instruments used to collect data. The statistics used for analyzing the collected data, research materials/research units, category of researched content, and research findings.

Data collection

Research methodology was quantitative and qualitative research by studying documents to synthesize research articles and academic articles on educational technology totaling 34 titles by applying the principles of synthesis in 3 steps:

1. Identifying the quality and essence of each research article.

2. A synthesize of the essence of the whole research article to reflect the big picture of research on educational technology

3. Discussion of the results of the synthesis of research articles and giving recommendations.

3. RESULT AND DISCUSSION

A synthesize research studies on educational technology which appearing in Journal of Education, Mahasarakham University during the year 2016-2020 totaling 34 articles were presented in 4 parts which can summarize the essence research are as follows:

1. In the part of basic information: educational technology article published in the Journal of Education Mahasarakham University during the year 2016-2020 found that 1) There are 34 published research articles divided into 16 articles of 2016, 2 articles of 2017, 14 articles of 2018 and 2 articles of 2020. 2) The number of researchers per article was mostly 3 authors. 3) Most of the research groups are graduate students. 4) All the authors of the research articles are scholars, teachers, students in the field of educational technology and communication.

2. In the part of research methodology; all of 34 research articles submitted for publication can be summarize results into 9 issues as follows:

- The method for selecting population and samples used in most of research studies are cluster random sampling.
- Most research types employed experimental research.
- Conceptual framework for research, most of them did not put a conceptual framework in their research.
- The instrument used in the research; most of them were questionnaires and interview form.
- Quality testing of research instrument, most of them using validity, reliability, and discrimination power.
- The statistics used for analyzing the data were percentage, mean, standard deviation, and dependent t-test.
- The repository of the presented research article, most of them are educational institutions.

- Research hypothesis testing, most of them tests of hypothesis in research and assumptions.

3．A body of knowledge gained from research articles. It is a body of knowledge on educational technology which consists of 3 aspects: education, personnel, and organization and educational institutions.

4. Research utilization can be reported that 1) Institution; is useful to develop media planning, new innovations, personnel, learners and the operational efficiency to achieve specified goals. Including the use of educational technology to solve education problems whether teacher problems, student problems, content problems, time problems, distance problems and the problems of operational processes to increase the efficiency of teaching and learning and increase educational effectiveness, 2）Department/Organization; is useful in setting policies, plans, missions, visions and goals of the organization to achieves the specified Educational technology is a tool that helps manage documents and information that the organization needs. It is also a convenient and fast communication tool, and 3）Communities; is useful in building relationships with community by giving information, news, public relations, dissemination of information on the operation of groups of people in educational institutions and other organizations such as families, community organizations, professional organizations, religious institutions, enterprises, government offices, private organizations and other social institutions.

There are 34 published research articles, the number of researchers per article was mostly 3 authors, most of the research groups are graduate students and all the authors of the research articles are scholars, teachers, students in the major of educational technology. Nowadays there are many educational institutions offering more master's and doctor's degrees or known as graduate studies. So they have conditions for the students who expect to fulfill the requirements for graduation are required to write research articles for publication in national or international journals of acceptable quality and it also supports the development of the quality and standards of theses and independent studies to have a good quality and can be utilized to comply by Office of the Higher Education Commission (OHEC).

All of 34 research articles submitted for publication can be summarize results into 9 issues as follows: 1) methods for selecting populations and samples used in most of research studies are cluster random sampling, 2) most research types are experimental research, 3) conceptual framework for research did not put a conceptual framework in their research, 4) instruments used in the research were questionnaires and interview form, 5）quality testing of research instrument employed validity value, reliability value, and discrimination power value, 6) the statistics used for analyzing the data were percentage, mean, standard deviation, and t-test, 7) the repository of the presented research article were educational institutions, 8) research hypothesis testing used, and 9) most research hypothesis test results are in accordance with the assumptions. Baker (2009), Garzón et al. (2020) sated that questionnaires were widely used to measuring facts, behavior, preferences, intentions, attitudes and opinions, because it offer a fast, efficient and inexpensive and can be used in integration with other types of tools. An questionnaires are one of the research tools used to collect data therefore, research needs to use appropriate tools to obtain accurate and reliable data, finding the quality of the instrument most of them using validity value, reliability value, discrimination power value, the statistics used

for analyzing the data were percentage, mean, standard deviation, and t-test, most of the repository of the presented research article are educational institutions, most of them tests of hypothesis in research and most of research hypothesis test results are in accordance with the assumptions. Singporn & Nuangchalerm (2021) noted that research hypotheses may not need to be formulated for responding to all research problems, researcher may define a hypothesis in response to some necessary problems.

It is a body of knowledge on educational technology which consists of 3 aspects: 1) Education; In modern-day, educational technology plays an essential role in education management because there are many educational problems namely teacher problems, learners problems, content problems, and time problems. Educational technology help to increase the efficiency and effectiveness of learning management, thus teaching and learning more meaningful, students can study extensively learn, faster, this gives teachers more time for their students, responds to differences of learners. Educational technology opens up educational opportunities in formal education, Non-formal education and informal education 2) Personnel; Educational technology is an essence tool in teaching and learning development, media development, learning innovation to manage education effectively. Technology is important and essential to learners' learning, teachers' teaching because helping create a new innovations that corresponds to the necessity of living, and facilitated teachers to develop a variety of media be consistent the learners' need, reduce the burden of teaching teachers including helps to work efficiently, and 3) Organization and Educational institutions; Technology has played an essence role in managing an organization because every units needs to rely on technology including the use of computers or various telecommunication equipment for use in store, search, transmit, and information process to provide administration can be carried out easily and quickly.

Research utilization; 1) Institution; is useful to develop media planning, new innovations, personnel, learners and the operational efficiency to achieve specified goals. Including the use of educational technology to solve education problems whether teacher problems, student problems, content problems, time problems, distance problems and the problems of operational processes to increase the efficiency of teaching and learning and increase educational effectiveness, 2) Department/Organization; is useful in setting policies, plans, missions, visions and goals of the organization to achieves the specified Educational technology is a tool that helps manage documents and information that the organization needs. It is also a convenient and fast communication tool, and 3) Communities; is useful in building relationships with community by giving information, news, public relations, dissemination of information on the operation of groups of people in educational institutions and other organizations such as families, community organizations, professional organizations, religious institutions, enterprises, government offices, private organizations and other social institutions.

The essence role of technology help get information a very fast and convenient through variety of channels, the information received is useful for planning. management, operation, include linking the relationship between educational institutions and the community through technological communication which consistent with the research of Youngmee et al. (2017), synthesized academic published in Art and Architecture Journal Naresuan University between 2010-2014 totaling 87 articles found that: 1) In the part of basic information: 1) 75 published research articles in Art and Architecture Journal Naresuan University between 2010-2014, 2)

the number of researchers per article was mostly 3 authors, 3) most of the research groups are graduate students, 4) all the authors of the research articles are a group of academic professors from various educational institutions. This research articles are published within the scope of an educational journal. The authors must strictly comply with the reference system and the criteria for the publication of academic or research articles set by the journal.

4. CONCLUSION

The objective was to compile a compilation of research works on educational technology that were published in the Journal of Education at Mahasarakham University between the years 2020 and 2016. The analysis of research papers consisted of determining the quality and substance of each research article, synthesizing the essence of the whole research article to represent a more comprehensive picture of research on educational technology, and discussing suggestions. A total of 34 research publications have been published, including 16 articles from the year 2016, two pieces from the year 2017, fourteen articles from the year 2018, and two articles from the year 2020. It is possible to synthesize the findings of all 34 research papers that were submitted for publication into nine different issues. The body of information that has been accumulated via the reading of research publications covers the subject of educational technology.

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