



The Effect of Complete-Learning Model Based on Media Information Communications Technology (ICT) on Students' Learning Motivation

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Abstract. Complete-Learning Model is a learning strategy to achieve overall learning objectives by students to obtain maximum results. Therefore, a review is needed to analyze the effect of complete learning based on Information Communications Technology (ICT) media on student learning motivation. To determine the effects of the complete learning model based on Information Communications Technology (ICT) media on student learning motivation, a literature review using PICOT. The keywords used are "mastery learning or complete learning and Information Communications Technology or ICT". The electronic databases used are PubMed, ProQuest, and Ebsco. To search for relevant English-language and open-access publications published from 2018 to 2022 where "9" articles met the inclusion criteria. The complete learning model based on Information Communications Technology (ICT) media is one of the choices in learning design to increase student learning motivation. The results of the literature find that ICT has implications for the design and programs of education. ICT-based learning design becomes a necessity in learning and makes it easier for students to access learning so that it can increase student learning motivation. Found nine articles on systematic literature review, conclusion complete learning model based on Information Communications Technology (ICT) has an effect on student learning motivation.

Keywords: Complete-Learning Model · Information Communications Technology (ICT) · Learning Motivation · Students

1 Introduction

ICT (Instructional Communication Technology) has recently grown rapidly in all fields including education. Technological advances are currently considered very rapid [1]. Among various types of ICT, mobile technology is increasingly being used in education to assist learning services (Liu et al., 2018).

Apart from being a communication tool, the mobile phone that is currently owned can be used in various needs, one of which is for learning [2]. Students will become easier when learning to use their mobile phones. Learning using mobile media based on

applications can be accessed at any time when students need it and of course this is very helpful for them [1].

The search results on mobile stated that mobile technology enables broader learning, by providing up-to-date and accurate content, increases learning satisfaction [3], improves learning experiences [4], 10 beliefs [5], help make decisions [6], learners also become more critical; [8], mobile learning will also make students more learner-centered and facilitate academic success [9, 10].

Mobile technology can also perform real-time formative assessments and receive immediate feedback [11]. This will certainly make it very easy when learning is carried out and effective to see obstacles or obstacles in achieving learning goals. Likewise, a learning environment with technology will be able to increase student motivation, be taken in cooperation and be able to improve student achievement [12].

Mastery learning developed by John B Carroll (1963) and Bloom (Bloom, 1968) is a learning strategy that emphasizes the achievement of overall learning objectives (complete) by students so that all students obtain maximum results, learning implemented systematically. Systematics will be reflected in the organization of goals, and learning materials carrying out evaluations, guiding students who fail to achieve the learning objectives that have been set, and provide enrichment programs for students who master or achieve learning goals faster [12].

2 Method

2.1 Keyword

The strategies used to search for journal articles using PICO, namely the Problem/ Population of the problem to be analyzed, Intervention Actions carried out on cases and presentations on implementation, Comparison of management used as comparisons, and outcome of results or outcomes obtained in the study. Search articles using keywords and boolean operators AND, OR, NOT with the keywords “Mastery Learning” OR “complete learning” AND “Information Communications Technology” OR “ICT”.

2.2 Datasbase or Search Engine

Secondary data in this systematic literature review is not from experience, but is obtained from previous research. The secondary data sources are articles or journals selected through PubMed, ProQuest, and Ebsco publications.

2.3 Inclusion and Exclusion Criteria

The selection of journal research results or articles that will be included in the systematic literature review in this study is based on the following criteria:

Criteria	Inclusion	Exclusion
<i>Problem/Population</i>	Database to research topics, namely influence of complete learning models based on Information Communications Technology (ICT) media with student learning motivation	Database that not related the topic research, namely the effect of a complete learning model based on Information Communications Technology (ICT) media with student learning motivation
<i>Intervention</i>	It does not use intervention	It does not use intervention
<i>Comparison</i>	There is no comparison factor	There is no comparison factor
<i>Outcome</i>	Thorough learning has an effect with Information Communications Technology (ICT) media with student learning motivation	There is no effect of the complete learning model based on Information Communications Technology (ICT) media with student learning motivation
<i>Publication Year</i>	Publication of articles published from 2018 – 2022	Publication of articles published before 2018
<i>Language</i>	English and Indonesian	Other English and Indonesian

3 Study Selection and Quality Assessment

3.1 Search Result and Study Selection

Based on the results of a literature search through PubMed, ProQuest, and Ebsco publications using the keywords “Mastery Learning” OR “complete learning” AND “Information Communications Technology” OR “ICT” the researchers found 688,299 articles that matched the keywords. The research articles were then screened and found that 250,467 articles were excluded because they were published before 2018. Identification by title and abstract found 30 articles. After analysis and review, 9 articles were found that matched the inclusion criteria (Fig. 1).

3.2 Search Result and Study Selection

This review used a narrative method by combining similar data according to the measured results to answer research questions. From 9 articles that have been reviewed, it was found that the complete-learning model based on Information Communications Technology (ICT) had an effect on student learning motivation. The articles were then collected and made a summary which includes the name of the researcher, year of publication, title, method, research results, and database (Table 1.).

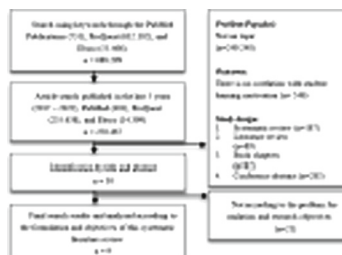


Fig. 1 Systematic Literature Review Flowchart

Table 1. Results of Review of the Effect of Complete-Learning Model based on Media Information Communications Technology (ICT) Media on Student Learning Motivation.

No	Author Year	Topic	Method	Result	Database
1	Y. Kurniawati, MR Wigati, dan S Hasri. 2021	Information and communications technology (ICT) based of chemistry instructional learning design for students with multiple intelligence	Mixed method with exploratory design.	Learning to use ICT media has a focus on students' intelligence	ProQuest
2	Ifeako, Juliet Ude. 2021	Effect of Using Information and Communications Technology (Ict) in Teaching and Learning English Language in Tertiary Institutions in Nigeria During Covid -19 Pandemic Era	Systematic Literature Review	Learning with ICT media can replace learning activities carried out in the classroom	Ebsco
3	Delfin Ortega Sánchez, and Alfredo Jiménez Eguizábal. 2019	Project-Based Learning through Information and Communications Technology and the Curricular Inclusion of Social Problems Relevant to the Initial Training of Infant School Teachers	Pre experimental kuantitatif design with control groups	The PBL method with ICT is proven to increase creativity, thoughtprocess and good competence in schools	ProQuest
4	Zhenyu Ma, et al., 2017.	Developing a Curriculum for Information and Communications Technology Use in Global Health Research and Training: A Qualitative Study Among Chinese Health Sciences Graduate Students	Qualitative design with Forum Group Discussion (FGD)	The curriculum with ICT media is closely related to educational programs	PubMed

(continued)

Table 1. (continued)

No	Author Year	Topic	Method	Result	Database
5	Bhesh Raj Mainali & André Heck. 2017	Comparison of Traditional Instruction on Reflection and Rotation in Nepali High Schools with an Investigative, Student-Centered, and ICT-Rich Approach	Quantitative Design with pretest-posttest control group	ICT facilities can achieve improved teaching and learning in public secondary schools in developing countries.	Ebsco
6	Renee Hobbs and Sait Tuzel. 2017	Teacher motivations for digital and media literacy: An examination of Turkish educators	Qualitative with a descriptive survey	Literacy and media digital are able to float motivation and learning experiences	Ebsco
7	Alyssa Emerya Megan Sandersb, Lynley H. Andermanc, and Shirley L. Yu. 2018	When Mastery Goals Meet Mastery Learning: Administrator, Teacher, and Student Perceptions	Qualitative design with semi structured interviews	The results showed that evaluation practices have a positive motivational impact from teaching based on mastery learning.	Ebsco
8	Vicky J. et al., 2019.	Online Simulation Based Mastery Learning with Deliberate Practice: Developing Interprofessional Communication Skill	Quantitative design pretest posttest control group	Online based learning is considered flexible and can train students' skills	Ebsco
9	Ismail Elmahdi, & Abdulghani Al-Hattami. 2018	Using Technology for Formative Assessment to Improve Students' Learning	A descriptive mixed methods design	The use of technology in learning can improve students' formative assessment	Ebsco

4 Discussion

Complete-learning model based on Information Communications Technology (ICT) had an effect on students' learning motivation. This is supported by [13] that complete learning can increase self-efficacy. In addition, according to [14] that complete learning can be self-motivated. The same thing was also stated by [15] and that complete learning

can support learning outcomes. Meanwhile, according to complete learning can reduce plagiarism. [16].

Complete-learning model at various levels of education from elementary school [17], junior high school [18], to university. Likewise, complete learning has also been carried out in several fields of science such as mathematics [19–21] and nursing [22–24]; It's just that complete learning in nursing, pharmacy and medical education focuses on clinical learning how many simulations [25].

Complete-learning model provides opportunities for all students to master competencies if given sufficient time and support, planned and clearly in accordance with learning styles, suitable for supporting individual learning and providing a conducive learning atmosphere. Appropriate for every student. Formative assessment and feedback are core activities and the most widely implemented, if given in an organized and structured manner can improve learning outcomes [26].

In this case, there are many benefits of formative assessment on complete learning, namely to facilitate mastery and learning opportunities to make students focus on the process, to make decisions about what next steps should be taken enables timely feedback, correction and alignment of learning.

5 Conclusion

Systematic review in the out on 9 articles, that the complete learning model based on Information Communications Technology (ICT) had an effect on student learning motivation. So it is suggested that the complete learning model can be applied by using ICT as a learning medium.

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