THE MANAGEMENT STRATEGY OF THE ONLINE LEARNING FRAMEWORK THAT SUPPORTS THE QUALITY OF LEARNING

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Abstract: The emergence and spread of COVID-19 as a global pandemic pose challenges in everyday life. In the field of education, offline learning models that involve direct public contact have been banned and replaced with online learning models, resulting in a surge in online learning exploration. The success of online learning depends on Wi-Fi facilities that are connected to a smartphone or computer. The implementation of online learning is based on context and strategies, models and management frameworks. Its application is adapted to the conditions in which online learning is applied. The purpose of this paper is to analyse the online learning management framework in supporting student academic performance.

Keywords: The management strategy¸ online learning¸ framework¸ quality of learning

1. Introduction

1.1. Background

The COVID 19 pandemic has changed activities of many people. In the field of education, face-to-face (offline) learning has been replaced by online learning models or what is called online learning. Rapid changes which require adaptations by lecturers and students cause various problems around the implementation of online learning. The transition from face-to-face learning to online learning is discussed in this paper with the aim of outlining some considerations for a more effective online learning strategy through an analysis of the online learning framework that has been applied by educational institutions. The analysis of the management strategy of the online learning framework was carried out to produce a more resilient and adaptive framework according to the needs of students so that it can support the quality of learning.

There are previous research on online learning, online learning models and frameworks, online learning management and quality evaluation on online learning (Masoumi & Lindström 2012), supporting factors, obstacles to online learning (Fathema et.al., 2015; Mtebe & Raphael, 2018). However, this framework has not been identified that it can be applied in another institution. In particular, the results of previous research have not specifically discussed the strategic and management aspects of the online learning framework according to needs of the user. This paper can fill in this gap, as this paper aims to analyse the management strategy for the online learning framework that supports the quality of learning.

1.2. The Urgency of the Online Learning Framework

The Indonesian government's policies in preventing the transmission of the COVID-19 outbreak include implementing Large-Scale Social Restrictions (PSSB) (Caraka et al., 2020). The impact of the implementation of this policy has forced educational institutions to implement online learning (Dewi & Wajdi, 2021). Furthermore, the online learning system is required to support learning to be carried out effectively, innovatively, and creatively (Mulyanti et al., 2020). Access to information and dialogue that was previously under the control of educators, can now be easily accessed by students. The urgency of implementing online learning is class limitations, learning boredom, and limited interactions (McGill & Klobas, 2009; Gautreau, 2011). The application of online learning can be effective if the online learning framework fits the needs and availability of facilities and is packaged in interactive multimedia on teaching materials, online discussions, and even interactive video conferences (Ellis & Calvo, 2007). This condition becomes a strategic reason for developing and implementing an online learning framework strategy according to needs of the user to strengthen the quality of learning.

2. Discussion

2.1. Online Learning

Online learning is a form of distance education carried out via the internet, or is electronic – based learning (Howlett et al., 2009). Various terms are used referring to electronic learning, including online learning, internet – enabled learning, virtual learning, or web – based learning. Several studies

have defined online learning as the use of technology during the learning process (Al-Fraihat et al., 2017; Cidral et al., 2018), as an information system that can assimilate various instructional materials via email, discussions, assignments, quizzes, and live chat sessions (McGill & Klobas, 2009; Howlett et al., 2009). Several studies to evaluate the success of online learning systems such as: information systems success model (IS) by DeLone & McLean (2003) (Al-Fraihat, et al., 2017), Technology Acceptance Model (TAM) by Davis (1989) (Cidral et al., 2018), User Satisfaction Model (US) by Cyert & March (1963) (McGill & Klobas, 2009), and E-Learning Quality Model (ELQ) by Al-Fraihat (2020) (Eom et al., 2012). Online learning content is available through various types (text, images, sound) (Moore & Kearsley, 2012) and various types of media (Laurillard, 2002). Mastery of various types of Information and Communication Technology (ICT) is important for someone to adapt in implementing online learning (Pandey, 2021).

There are three requirements in implementing online learning, including: (a) learning activities carried out through network utilization, (b) the availability of learning support services that can be used by learning participants, for example, External Hard Drives, Flash drive, CD-ROM, or printed materials, and (c) the availability of tutor service support that can assist participants to learn if they experience learning difficulties (Hartanto, 2016). Additional requirements include (a) institutions that organize and manage online learning activities, (b) positive attitudes of students and educational staff to computer and internet technology, (c) the design of the online learning system can be studied and known by every learner, (d) an evaluation system for the development of student learning outcomes, and (e) a feedback mechanism for online learning developed by the institution.

The components of the online learning include infrastructure, systems, applications, and content (Romisatriawahono, 2008; Hartanto, 2016). Online learning infrastructure includes personal computers (PCs), computer networks, switches, routers, or other network devices connected to certain communication media. Other infrastructure includes multimedia equipment such as media equipment that combines elements of text, graphics, images, photos, audio, video, and animation in an integrated manner. Furthermore, online learning content is content and instructional materials in the online learning system (LMS). This content and instructional materials can be in the form of multimedia – based content or content in the form of interactive multimedia stored in a Learning Management System (LMS) so that students can learn it anytime and anywhere.

2.2. **Online Learning Strategy**

The strategy of the online learning implementation contains four stages includes analysis, planning, implementation, and evaluation. Online learning analysis is carried out on the factors of needs in implementing online learning to produce good learning quality (Hadromi et al., 2015). Furthermore, the planning aspect is carried out on the network, learning management system, instructional materials, and management (Hadromi et al., 2021b). Meanwhile, at the implementation stage, good project management expertise is required to ensure coordination and execution of work according to plan and does not deviate from the goals and strategies. Finally, the evaluation is carried out to assess the achievement of the implementation of online learning.

2.3. **Online Learning Framework**

Online Learning can be carried out effectively if it fulfils three key components that work collectively; (1) pedagogical model or construction; (2) learning process and learning strategies; and (3) pedagogical equipment or online learning technologies including Internet and Web-based technologies (Dabbagh, 2005). Figure 1 shows the relationship of these three components which form a recurring relationship. Pedagogical constructs are based on a view of cognition and inform online learning design by leading them to the specification of learning strategies. Learning is carried out by using the learning technology. This three – component model implies transformative interactions that affect online learning.

The pedagogical strategy is a cognitive model or theoretical construct derived from the model of knowledge acquisition about cognition and knowledge, which form the basis for the application of learning theory. This strategy is a mechanism that connects theoretical learning with practice.

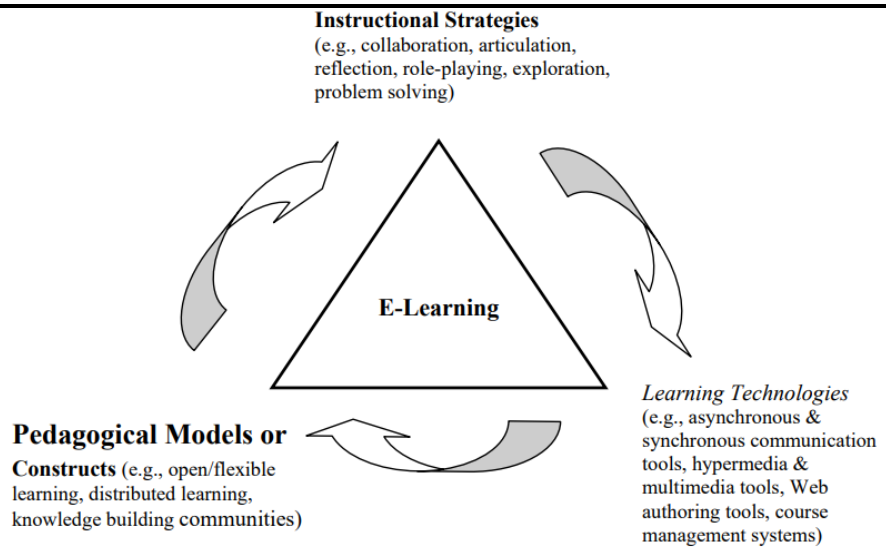

Figure 1. Theory-Based design framework for e-learning (Dabbagh, 2005)

2.4. **Management Strategy of the Online Learning Framework**

The management strategy of the online learning framework is to (1) clarify the educational goals (2) know the required resources (3) make all involved parties focus to the same goal. (4) measurement of the success of achieving goals (Empy, 2005).

The management strategy of the online learning framework involves four stages which include analysis, planning, implementation, and evaluation (Hartanto, 2016; Hadromi et al., 2021c). Analysis of the necessary factors includes the needs of the organization in seeing the current situation and its positive impact, the analysis of the organizational infrastructure on the implementation of online learning.

The planning stage is carried out on the network, learning management system, materials, and management. The implementation stage requires an expertise on the good project management to ensure coordination and execution of work according to plan so that it does not deviate from the stated goals. The evaluation stage is carried out during and after the online learning process, and the last is to assess the success of the online learning program.

The management strategy of the online learning framework is based on factors of information system development. The management strategy implies that these factors are causally connected with system development (Gregor et al., 2006; Hadromi et al., 2021a). An example of an online learning framework management strategy is illustrated on Figure 2.

The theory of management strategy of the online learning framework contains three main components: people, technology, and services. People interact in online learning activities. Technology enables direct or indirect interaction of various groups of users providing support for integrating content, enabling communication, and providing collaboration tools. The service integrates all activities according to the pedagogical model and instructional strategy.

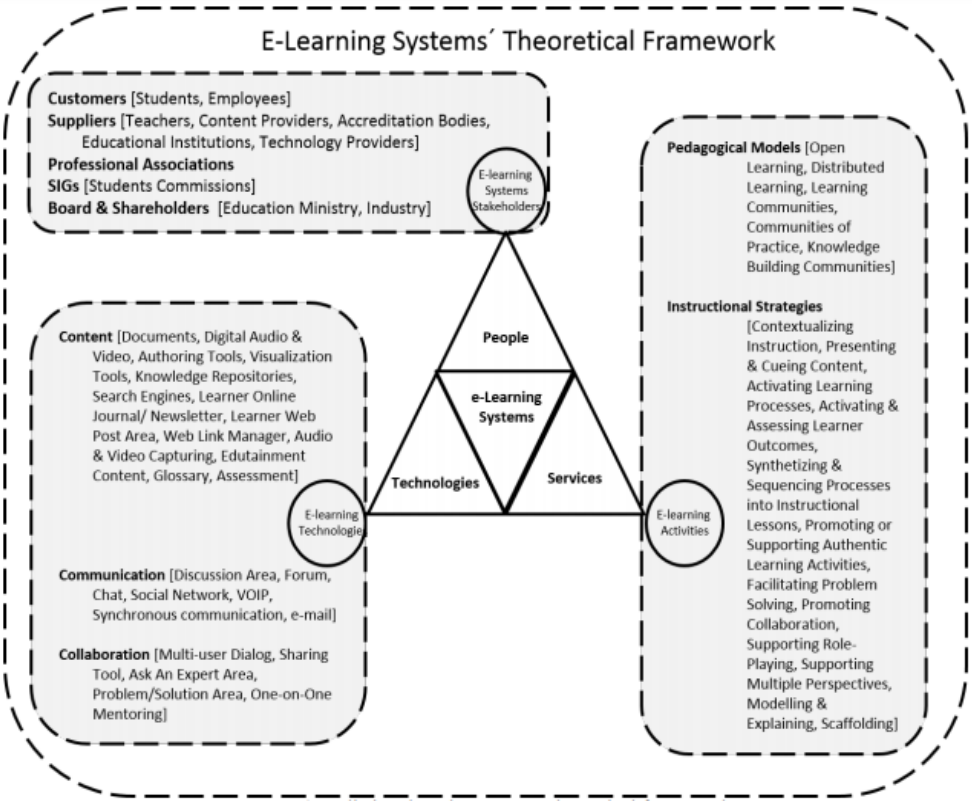

Figure 3. Holistic E-Learning System Theoretical Framework
(Aparicio, et al, 2016)

2.5. **Online Learning Technology**

Several experts have defined the characteristics of the online learning technology to support the learning process and collaborative learning environment (Dabbagh, 2005; Hsieh & Cho, 2011; McLoughlin & Oliver, 1999; Oliver & Herrington, 2003; Rourke & Anderson, 2002). The constructivist epistemology point of view requires an integrated strategy, aligning several foundations and environments: psychological, pedagogical, cultural, pragmatic, and technological, because it is based on the characteristics of this vision "knowledge depends on the frame of reference of the person who knows" (Dabbagh, 2005). Oliver and Herrigton (2003) built an online learning framework consisting of technological elements which are grouped into three main areas of learning including resources, support, and activities. Table 5 summarizes the online learning strategy by implementing various functions of correspondent technology in learning.

Table 5. Instructional strategies and learning technology
(Aparicio, et al., 2016)

Technologies	Strategies								Authors
	Authenticactiviti	Problemsolving	Roleplaying	Articulation&reflecti	Collaboration&negoti	Multi-perspectives	Modelling&explaini	Scaffolding	

	es			ction	tiation		ng		
Graphics Digital audio & video components Animation Hypermedia Authoring tools	√ √ √ √ √								Dabbagh, 2005; Hannafin et al,1997
Synchronous discussion area Online database/knowledge repositories Search engines		√ √ √							Dabbagh, 2005; McLoughlin & Oliver 1999)
Multi-user dialog Virtual reality Forums Learner web-post area Learner online journal Sharing tool Video conferencing Chat			√ √	 √ √ √	√ √ √ √	 √ 	√ √	 √ √ √	(Dabbagh, 2005; McLoughlin & Oliver, 1999)
Web links manager "Ask the expert" area/link						√ √		√	
Solution/problems area Digital area audio/video capturing							√ √		(Dabbagh, 2005; Jonassen et al., 1997)
One-on-one mentoring Glossary Assessment		 √		 √				√ √ √	(Dabbagh, 2005; McLoughlin & Oliver, 1999; Vygotsky, 1978)

2.6. **Evaluation on The Online Learning Framework**

Research on the evaluation on the online learning framework has been conducted by several previous research which review online learning programs, resources, and tools (Khan & Smith, 2007; Romiszowski). In particular, the evaluation of the online learning framework, in this paper, adopts the model theory for evaluating the success of e – learning system (EESS model) developed by Al-Fraihat (Al-Fraihat et al, 2017) (Figure 1).

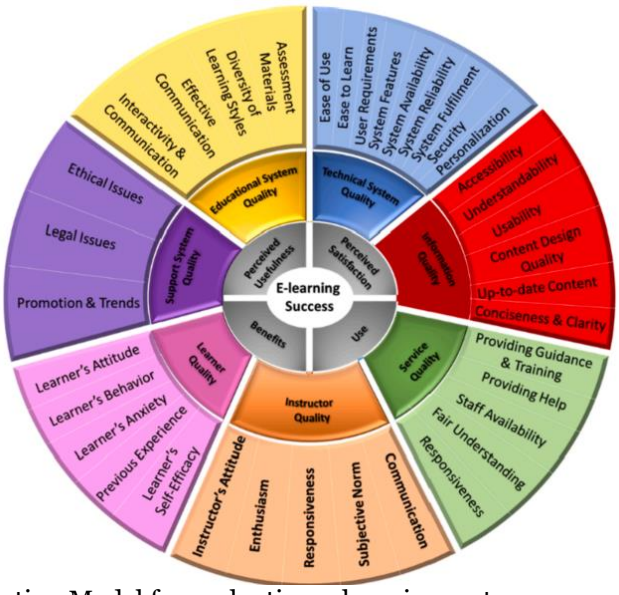

Figure 1. Evaluation Model for evaluating e-learning system success (EESS model) (Al-Fraihat, 2020)

2.7. **Pedagogical Model for Online Learning**

The pedagogical model is the basis of online learning theory and is a mechanism that connects online learning theory with online learning practice (Dabbagh, 2005). Pedagogical models in online learning consist of open learning models, distributed learning, learning communities, practice communities, and knowledge building communities. Open learning can take several forms such as workshops, seminars, night courses, or distance courses. The pedagogical model applied to online learning is supported by attributes such as learning as a social process, learning in groups is fundamental to achieving knowledge; distance does not matter (fuzzy space question); the teaching and learning process can be separated in time and space.

3. Conclusion

An online learning framework that supports the quality of learning consists of three key components which include pedagogical models or constructs; learning and learning strategies; and pedagogical equipment or online learning technologies. The management strategy is carried out as an effort to clarify the achievement of learning objectives, to find out the necessary resources, to ensure that all involved parties focus on the same goal. The management strategy is focused on people as implementers, technology, and the service system.

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