Learning Management and ICT on the Learning Effectiveness: A Literature Review from Diverse Lenses

Maya Sova¹, Maryadi Tirtana Siregar², Iskandar Ahmaddien³, Christiyanti Aprinastuti⁴, Kristia⁵

¹ Universitas Respati Indonesia, Jakarta, Indonesia; mayasova@urindo.ac.id
² Politeknik APP Jakarta, Jakarta, Indonesia; tirtana.mts@poltekapp.ac.id
³ Universitas Sangga Buana, Bandung, Indonesia; iskandar.ahmaddien@usbypkp@ac.id
⁴ Universitas Sanata Dharma, Yogyakarta, Indonesia; christiyantia@usd.ac.id
⁵ Universitas Sanata Dharma, Yogyakarta, Indonesia; kristia@usd.ac.id

ARTICLE INFO

ABSTRACT

The study aims to understand the use of Information and Communication Technology (ICT) as well as learning management which has a very important position in increasing the effectiveness of the teaching and learning process. Various obstacles, difficulties, and limitations are faced in the teaching and learning process, starting from the factors of students, students' families, as well as the use of information technology which is still not optimally and equally distributed both in terms of equipment and management. This study uses a literature review as the research method. Ten articles were the data of this study gained from the digital literature search. The data was then analysed using content analysis method. The results reveal that it can be seen that effective learning can be applied if the learning management is structured and implemented properly from all related parties. This learning management concept had implication in the Indonesian education during the COVID-19 pandemic. It cannot be separated from the use of ICT, where there are still obstacles or limitations both in terms of knowledge and existing facilities for teachers and students. These obstacles can be overcome by optimizing facilities for users and training to improve technical knowledge and use. Educators and students' good mastery will enable an increase in the effectiveness and efficiency of the learning process.

Corresponding Author:
Maya Sova
Universitas Respati Indonesia, Jakarta, Indonesia; mayasova@urindo.ac.id

1. INTRODUCTION

In educational activities, learning is a crucial thing. Facilitating learning for students is a noble task for a teacher. For this reason, teachers are not only required to make the learning atmosphere comfortable and interesting, but teachers also have to understand and master the knowledge of learning management both inside and outside the classroom (Walsh, 2002). Teachers have to be able to select and implement learning methods (Kunter et al., 2013). They also have to be able to select and implement learning methods that are in accordance with the complexity of the material and the character of each student (Vizeshfar & Torabizadeh (2018). Therefore, the methods and approaches applied are truly in accordance with the self-development of students because students are subjects and not objects in teaching and learning activities.

In learning interactions, it is strongly influenced by several components, namely: students, teachers, school principals, curriculum, school facilities (libraries), milieu and several other facilities needed in the learning process to support the quality of learning (Marjun & Harun, 2019). In this era of digitalization, one of the most important main components for increasing the effectiveness of teaching and learning is the utilization of information technology optimally and evenly, both in terms of equipment and management. Thus, learning activities can bring positive effects to students' knowledge, behavior, and skills.

In the condition that the world and Indonesia are dealing with the Corona Virus 19 pandemic, the world of education must adapt to keep up with the changes, as the traditional face-to-face learning system must be transformed into an online system (in a network) using internet technology. The information system as a collection of elements that interact with one another to achieve certain goals, contains several interrelated components and forms a cohesive work network to accomplish these goals (Adisel & Prananosa, 2020). Hence, in the current era of globalization, information and communication technology (ICT) is rapidly developing and has infiltrated many aspects of human life, one of which is education in various countries including Indonesia. Even the pressure of ICT is putting a lot of pressure on the education system around the world because technological advancement provides a lot of chances for developing education management and the learning process in higher education (Song et al., 2015).

Most of schools have begun to apply computer-based student record keeping systems which it includes analysis tools and information on routine concerns such as exam results and finances. ICT is a tool in the learning process, most of schools have begun to apply computer-based student record keeping systems which it includes analysis tools and information on routine concerns such as exam results and finance (Visscher et al., 2003). ICT is defined as a multimedia-based learning system (technology involving text, images, sound, and video) that is able to make the presentation of a topic interesting, not monotonous and easy to digest. The implementation of ICT in the education system, provides five advantages, namely: 1) facilitating and extending access to education, 2) increasing educational equality, 3) enhancing the quality of learning, 4) enhancing teacher professionalism and 5) improving the effectiveness and efficiency of management, governance, and education administration (Unesco, 2011). Recognizing the enormous advantages of ICT for education, UNESCO experts recommend that all countries; especially developing countries; increase the various resources needed to elaborate ICT in various policies, strategies, and educational activities. Today most countries emphasize learning and implement information and communication technology as the core of their education system (Hashemy et al., 2012).

In Indonesia, based on the 2020-2024 National Medium-Term Development Plan (RPJM), it is emphasized that the fourth priority of the Ministry of Education and Culture is technology development. The focus of this technology according to the Minister is to help all humans in the system to carry out their duties in a better way. Ministry of Education and Culture, to be able to provide excellent service, one thing that needs to be done is to develop the information and communication technology (ICT) which is carried out through the utilization of ICT in the field of education which includes the role of ICT as an educational substance, learning aids, educational facilities, competency standards, educational administration support, educational unit management tools, and educational

infrastructure. In connection with the statement, Therefore, the role of teachers is very much needed to manage learning starting with planning, organizing, implementing and evaluating as well as the utilization of ICT in the learning process in increasing the effectiveness of the teaching and learning process in the era of the COVID-19 pandemic, both the implementation of distance learning within the network (online) and outside the network (offline).

This study aims to understand how the implementation of learning management and ICT in different circumstance and relate them the with the learning effectiveness in Indonesia during the Covid-19 pandemic. There were several studies that have been discussing the issues of learning management during the pandemic. One of the examples was the research conducted by Mohammadi et al. (2021) that explained about the challenges and factors influencing the use of the learning management system during the Covid-19 pandemic in Afghanistan. The results of their research concluded that ICT infrastructure and ICT skills level are among the contributing factors. In short, it can be said that the learning management during the pandemic truly depend on the ICT. In other words, ICT plays a very significant role in the education during the pandemic situation. For this reason, this study is conducted in order to give furher explanation of how the learning management and ICT are implemented during pandemic in different contexts. This study has purpose to inform the teachers to be more advanced in utilizing the ICT and the policy makers to provide more sufficient facilities.

2. METHODS

This research used a literature review method. According to Cooper in Creswell (2010), a literature review has some goals, including informing readers of the findings of other studies that are closely linked to the research conducted at that time, connecting the research with the existing literature, and filling research gaps. Previously, the literature review contained reviews, summaries, as well as the author's thoughts on a variety of library sources (articles, books, slides, information from the internet, image and graphic data, and so on.) related to the topics discussed. This research was the review of ten literatures gained from the Google Scholar from 2008 – 2021. These articles were selected from different contexts purposefully in order to serve diverse insights. To analyse the data, a content analysis is applied (Stemler, 2000). The following are the information of the data taken in this study.

No.	Name of writers	Year of publication	Context
1.	Musungwini et al.	(2016)	Zimbabwe
2.	Pima et al.	(2016)	Tanzania
3.	Wong	(2016)	Hongkong
4.	Evans	(2008)	London, UK
5.	Ahyar & Rasyimah	(2017)	Indonesia
6.	Gemnafle & Batlolona	(2021)	Indonesia
7.	Mashuri & Hasanah	(2021)	Indonesia
8.	Song et al.	(2015)	Not mentioned
9.	Rahayu, et al.	(2021)	Indonesia
10.	Khotijah	(2016)	Indonesia

3. FINDINGS AND DISCUSSION

From the results of data analysis, 10 previous studies, both national and international, argue that the application of ICT in the learning system is one of the effective ways that can be used to gain the learning goals. What is needed to support ICT-based learning management is to prepare security for students on the Internet network, professional efficiency of teachers with the expansion of ICT, using internet capabilities in the learning and teaching process as well as increasing parents' knowledge about the application of ICT in education. The following is the broad concept of those literature.

3.1. An Analysis of the Use of Cloud Computing Among University Lecturers: A Case Study in Zimbabwe

This research was conducted by Musungwini et al. (2016). The results of this research revealed that Google docs has several advantages for Lecturers and these advantages, namely; anyone with a Gmail account can use Google Docs for free. The only need is that you have access to the internet. Google Docs allows academics to collaborate more effectively. On the platform, lecturers doing on a research project can exchange knowledge and ideas easily. Google Docs also contains the most important tools that an academic might require. It is one of the most secure platforms in the internet world with a proven track record so that lecturers just need to be taught, and these writers assume that workshops are the best way to do it.

3.2. Assessing the Available ICT Infrastructure for Collaborative Web Technologies in A Blended Learning Environment in Tanzania: A Mixed Methods Research

This research was conducted by Pima et al. (2016). The research has revealed that Tanzanian HEIs have a stable and capable ICT infrastructure for supporting the adoption and application of CWTs for BL environment. The MM approach assisted to demonstrate that Tanzania has a stable and rapidly developing broadband network service by using questionnaire, interview, observation, and review of organizational documents. The research has also revealed that in Tanzania, the ISPs competition has resulted in cheaper internet charges and improved the quality of services offered. Furthermore, when accessing online services via the internet, students and lecturers have and utilize smart devices and laptops more than desktop computers, according to the paper. The findings and discussions reveal that the ICT infrastructure in Tanzania is capable to support the application of CWTs in a BL environment.

3.3. Student Perception on a Student Response System (SRS) Formed by Combining Mobile Phone and A Polling Website

This research was conducted by Wong (2016). According to the findings of this research, it is feasible to establish an efficient SRS by combining student mobile phones with polling website. Students also agreed that it increased their attention and made the lessons more attractive. Although students had a generally positive impression of the SRS, another research is required to know why the students' desire to utilize SRS in future is not as positive as other impression of SRS. The findings of this research are largely in line with theirs. One specific result of the research is that the average scores on student's desire to utilize SRS in the future and their general acceptance on SRS are lower than other variables.

3.4. The Effectiveness of M-Learning in The Form of Podcast Revision Lectures in Higher Education

This research was conducted by Evans (2008). The findings reveal that students like the flexibility that podcasts provide in terms of being able to learn whenever and wherever they want. The overall objective of research was to determine whether revision podcasts enhance the learning process or not. The findings reveal that students perceived podcasts to be efficient, effective, entertaining and easily received learning tools for revision. Podcasting seems to give significant potential in increasing the revision process.

3.5. Learning Management of Bahasa in Senior High Schools

This research was conducted by Ahyar & Rasyimah (2017). The findings show that teachers' Bahasa has compiled the planning of Bahasa learning at high school, which include assessing Bahasa subjects, compiling the yearly program, drawing up semester and yearly program, syllabus, and

making the plan of the learning program. The entire process of learning Bahasa is well-organized and documented. Application of 360 Bahasa learning at high school is applied depending on the unit level of the school-based curriculum that had been designed. A management system is already in place to organize Bahasa learning at high school. Bahasa teachers perform their roles and their duties according to their job descriptions. The quality of Bahasa learning at high school is largely determined by the condition, which is increasing year after year.

Teachers who handle the Bahasa subjects in a way that is incompatible with learning management include one of a constraint in the enhancement of learning. The arranged syllabus and lesson plan serve as the basis for activities and aspects in evaluating Indonesian language learning at high school. The purpose of the evaluation phase is to make the learning activities better which it can be done orally or in writing

3.6. Learning Management

This research was conducted by Gemnafle & Batlolona (2021). The results show that at the end of the study on the learning leadership development, some practical thoughts will be presented to underline the entire study of the concept of learning leadership development and its impact on student achievement. The things in question are as follows. 1) Managerial ability, namely the ability to understand and implement educational management concepts, especially learning leadership is actually one of the things that really determines the quality of educational services so that school institutions show a position as a quality educational institution and are in demand by the wider community or the school is attractive. people's hearts, especially students who study or follow daily learning in it. 2) The concepts of learning leadership that are practiced or implemented by school principals as learning leaders, are placed on understanding and efforts to develop teacher competencies and if teacher competencies are developed and grow well, then the teacher concerned will display a new spirit and commitment that will occur including: in it is the teacher's ability to manage learning because the teacher feels fully supported by the principal. 3) If the principal as learning leader and teachers as learning leaders develop and have a high commitment and common understanding to improve the quality of learning, then students will achieve increased learning achievement, both academic achievement and non-academic achievement.

3.7. Management of English Learning in Improving Student Learning Outcomes during the Covid-19 Pandemic at a Senior High School in Yogyakarta

This research was conducted by Mashuri & Hasanah (2021). The findings of the research show the following. First, during the Covid-19 period, English education planning is arranged around subjects, competency standards, basic competency, learning objectives, teaching modules, procedures, time allocation, learning activities, learning resources/equipment during the Covid-19 period, as well as evaluating student learning outcomes. distant education. Second, the syllabus and the second latest learning implementation plan serve as guidelines for the implementation of the education that has been tried. During the Covid19 pandemic, english teachers have been practicing innovative education, including Google Classroom, Zoom, WhatsApp, etc. Distance learning in which the teacher opens the lesson, delivers teaching materials two days before the learning activity takes place and student-centered learning with students. In the cognitive and psychomotor domains, the educational process is more important. Third, when the education dares to take place, a pretest and posttest are used in the learning assessment. Direct observation is employed in the learning as an evaluation method, as well as tests/exercises at the end of the class, in order for teacher is aware of each student's weaknesses and shortcomings. SMA Muhammadiyah 3 Yogyakarta's learning support facilities include a language laboratory which it can help students learn English more effectively.

3.8. An e-Curriculum Based Systematic Resource Integration Approach to Web-Based Education

This research was conducted by Song et al. (2015). The results showed that there were two experiments, a learning objects system development through metadata and ontology modelling and a learning process system development that assisted a learner to learn Java programming. In the first experiment, the writers created about two hundred learning services, which included learning resources and functions. The system was able to discover relevant learning objects and create a realistic sequence of learning process with acceptable accuracy and performance through simple keyword-based search and match, In the second experiment, the writers concentrated on constructing a learning process, i.e., matching a curriculum with learners' needs and pre-requisites.

3.9. Management of Online Learning During the Covid-19 Pandemic in the S1 Study Program of Fashion Design at a state university in Surabaya

This research was conducted by Rahayu, et al. (2021). The findings reveal that 1) 66.7% of all lecturers have created a learning plan (RPS) for online mode learning, 2) 75% of the lecturers implement online learning mode in accordance with the RPS that has been created, 3) 83% of the lecturers expressed that they faced difficulties in carrying out online learning during the Covid 19 pandemic.

3.10. Database Design of E-Learning Management System for Learning in Junior High School

This research was conducted by Khotijah (2016). The results showed that learning with e-Learning Management System is a form of learning that is not limited by time and space where students who learn to gain knowledge do not have to physically attend class. An e-Learning Management System requires database design because the wrong database will result in the information being designed not being conveyed. E-Learning Management System can shorten the target learning time schedule, save costs that must be issued by a school, facilitate interaction between students and materials, students and teachers/lecturers/instructors and students. Learners may exchange information and access learning materials at all time and frequently. The online collaboration facility owned by the e-Learning Management System facilitates the process of information transfer and communication. Learning by using the support of internet technology makes the center of attention in learning focused on the learner, and does not depend entirely on the teacher.

Discussion

The findings of the data analysis show the objectives of learning management and ICT from diverse scopes. The results had particularly implications towards the Indonesian learning circumstance, especially during the pandemic. In Indonesia, learning objectives are basically a derivation of UU No. 20 Tahun 2003 as regards the National Education System Pasal 3 which reads, "National education functions to develop capabilities and shape the character and civilization of a dignified nation in the context of educating the nation's life, aiming to develop the potential of students to become human beings who believe and fear God Almighty, have noble character, are healthy, knowledgeable, capable, creative, independent, and become democratic and responsible citizens" (Sarlian et al., 2020). In particular, the objectives of learning management include two things, namely 1) For students, every child during learning activities can be responsible and disciplined in order to attain learning targets comprehensively (Back et al., 2016), 2) For educators, that is, every educator must be able to manage learning activities by applying various strategies and methods by adjusting case by case, so that active, innovative, creative, effective and fun learning activities can be realized (Changwong et al., 2018).

Learning management cannot be separated from the elements that must be met. The elements of management, generally include seven management elements, which are abbreviated as 6 M + I, including man, money, material, machine, method, market and information. that every educator must

be able to manage learning activities by applying various strategies and methods by adjusting case by case, so that active, innovative, creative, effective and fun learning activities can be realized (Park et al., 2009). Learning management cannot be separated from the elements that must be met. The elements of management, generally include seven management elements, which are abbreviated as 6 M + I, including man, money, material, machine, method, market and information. that every educator must be able to manage learning activities by applying various strategies and methods by adjusting case by case, so that active, innovative, creative, effective and fun learning activities can be realized. Learning management cannot be separated from the elements that must be met.

So how is the implementation of learning management in increasing the effectiveness of the teaching and learning process during the COVID-19 pandemic? Referring to the Decree of the Minister of Health No.HK.01.07/MENKES/328/2020 related to the New Normal policy and the Circular Letter of the Minister of Education and Culture No. 4 of 2020 as regards the Implementation of Education Policies in the Emergency Period for the Spread of Corona Virus Disease (Rafsanjani & Handayani, 2021). The government through the ministry engaged in education has instructed educators to create an exciting learning atmosphere from home for students. Therefore, educators should be more innovative in presenting distance learning materials, in order the students do not only do assignments or academic problems (transfer of knowledge), but also need to pay attention to the character values (transfer of value). Educators must be able to prepare fun and challenging learning activities in order the students' interest in learning remains enthusiastic.

At the practical level of learning management implemented by educators, there are many obstacles. The barriers referred to are general and specific management authorities (Alenzi, 2018). Management in general includes matters relating to the authority of the teacher, the authority of the school as an institution, matters whose policies are not determined by subject teachers and school institutions.

1.1. Teacher factor

The teacher competency factor in managing learning is very urgent in increasing the effectiveness of the learning process to catch up in the period of the covid-19 pandemic. Learning is not optimal when learning is monotonous (ceremonial in nature), *uswah* educators who are not religious, incomplete understanding and understanding of educators about learning both online and offline, and educator information about students being incomplete, both students as individuals and as individuals as part of his family.

1.2. Student factor

Lack of responsibility for students in carrying out and completing their duties as students who are still required to study while studying from home. Students feel bored with new study habits. While at home, students are still required to study both online and offline, guided by the teacher and accompanied by their parents.

1.3. Family factor

Parents who have only surrendered to the school/teacher in terms of learning, now inevitably have to guard and monitor their own children while studying at home. Families who do not pay attention to learning activities from home become obstacles for students and teachers in the teaching and learning process. Families of students who have to work every day find it difficult to guard and monitor students who study from home.

1.4. Facility factor

In the period of the covid-19 pandemic, facilities in the form of tools or technology-based facilities are needed and the price for most parents of students is difficult to reach in setting up distance learning facilities. These include laptop facilities, android-based cellphones, and the provision of additional funds to purchase internet quotas periodically during the COVID-19 pandemic for online learning facilities. Likewise, the understanding of ICT that is less controlled by both the educators and students.

Therefore, during the COVID-19 pandemic, educators' role is very urgent in managing distance learning both online and offline. To assure the quality of learning, educators as much as possible manage learning starting from planning, organizing, actuating and evaluating. Planning is the most basic activity in a variety of activities in the form of accommodating everything related to the work to achieve optimal targets/goals. in this era of the covid-19 pandemic, minimal learning planning includes; 1) select and determine the actions of educators, when and how to implement them, 2) limit and determine the implementation of work according to learning targets; 3) learning strategy innovation; 4) analyze the situation and conditions to achieve the implementation of learning. 5) communicate planning related to learning to the authorities. Organizing learning becomes a benchmark for learning activities so that the direction and responsibility is clear. This allows the principal's position as manager in preparing learning facilities and infrastructure, clear duties and functions of educators to select and design learning activities according to time distribution, curriculum engineering, media and learning components as well as those related to increasing the efficacy of the teaching and learning process in the pandemic era. covid-19.

Actuating the teaching and learning process in the period of the covid-19 pandemic must adhere to the principles contained in the Circular Letter of the Minister of Education and Culture No. 4 of 2020 as regards the Implementation of Educational Policies in the Emergency Period for the Spread of Corona Virus Disease. The online learning process such as: first; Virtual face-to-face through video conference, teleconference, and/or group discussion on social media or messaging apps. In this case, educators and students can interact directly. Second; Learning Management System (LMS). LMS is an application-based online learning management system. Registration and account management, materials mastering, task completion, learning outcomes monitoring, participation in discussion forums, consultations and examinations/assessments are all forms of learning activities in the LMS. Then, the examples of LMS such as virtual home learning classes, Google Classroom, Edmodo, Moodle, Zenius Teacher's Room, Seamolec LMS Sijar, etc. Controlling is carried out by educators in order to find information, analyze information, and evaluate data related to learning activities and use it to control learning activities to achieve learning targets. Improvements are made throughout the teaching and learning process and as well as in the subsequent learning process as part of the learning control applied by educators. In addition to monitoring or evaluating learning programs, educators also supervise the achievement of student competencies.

Judging from the description above, we know that learning management during the COVID-19 pandemic is inseparable from ICT (Mohammadi et al., 2021). The utilization of ICT in education has contributed to the development of learning technology. Research around the world has revealed that ICT can improve students' learning methods and producing better teaching methods. A report written by the National Institute of Multimedia Education in Japan proves that increasing students' absorption by using ICT technology through curriculum integration has significantly positive impacts, especially in the areas of knowledge, understanding, and practical skills. Mastery of ICT is now needed by teachers as one of the competencies that must be possessed, both to assist them in carrying out their responsibilities (planning, learning presentation, evaluation and analyzing evaluation results) and as a tool to find and download learning resources (König et al., 2020). Hence, every teacher at all levels must be willing to continue learning ICT in order to fulfill the demands of these competencies. But not all teachers can master and use it. Therefore, this progress must be followed by the development of educator resources. To support this development, ICT facilities are needed. It is necessary for educators to be trained in ICT because ICT can be utilized to help administrative tasks. ICT can be utilized to assist package teaching materials (Multimedia) for learning needs. The utilization of ICT can help the process of learning management (E-learning, advanced requirements). In order to achieve self-running creativity, ICT may be employed for technical support and expand knowledge.

Good mastery by educators and students will enable an increase in the effectiveness and efficiency of the learning process so that the results become optimal. The use of ICT is not only limited

to activities to convey information but can also be used to create learning interactions (Richards, 2006). The utilization of online social media is used for interaction, discussion between students, or students with teachers. The utilization of e-learning as a learning process by utilizing computers and the internet must also be developed for teachers and students. The lack of equal distribution of technology in the territory of Indonesia can be circumvented by: (1) Ambassadors of underdeveloped regions. A program to invite ambassadors for underdeveloped regions consisting of representatives of teachers, lecturers, students and students from the area to take part in a training package on the introduction and utilization of ICT for their region. With the presence of these underdeveloped regional ambassadors, it is hoped that they will be able to transmit knowledge about ICT to the people in their regions. Of course, this will be done when the New Normal is still being implemented by following the covid 19 prevention protocol. (2) Finding out which areas have not yet implemented ICT, and it is hoped that the government will make simple links in every educational institution for access to information for the people of the area. (3) Optimizing the ICT potential of underdeveloped areas by empowering ambassadors of disadvantaged areas to provide knowledge to the community with rewards in the form of ICT facilities (regional ambassadors are given laptop facilities or free internet guarantee). It is hoped that it can be a solution for equal distribution of the quality of education in Indonesia and the education gap felt by the Indonesian people who live in remote (underdeveloped) areas.

Meanwhile, to overcome the ability of teachers to apply ICT, it can be done by (1) Delegating teachers to take part in training, upgrading, seminars and workshops on ICT, (2) Conducting training and outreach activities for all teachers by inviting resource persons, (3) Encouraging teachers to continue their studies to the level of education as determined by the government, (4) Complete various facilities and media that can support learning activities, (5) Implement learning using diverse strategies and methods, although not all schools are able to implement them effectively, and (6) Conducting comparative studies to other schools that are considered more advanced.

4.   CONCLUSION

The study aims to understand the use of ICT in increasing and learning management on the learning the effectiveness in different lenses through a literature study. Those effective uses are implacable in the learning Covid-19 pandemic. From the data analysis and discussion that has been carried out, it can be concluded that learning management is an effort made by teachers in learning activities or people who facilitate them with the goal of achieving ideal conditions, so that learning activities can be accomplished as intended. Learning management in general aims that every student in a class can learn and work in an orderly manner so that objectives of learning are achieved effectively and efficiently. Meanwhile, learning management specifically is intended to develop students' abilities in using learning tools, provide conditions that enable students to learn, and help students to obtain the expected results. However, there are several obstacles both from the teachers, students, families as well as facilities and knowledge. One thing that is dominant and discussed in almost all previous studies is the obstacle in terms of information and communication technologies (ICT). Mastery of ICT is now needed by teachers as one of the competencies that must be possessed, both to assist them in carrying out their responsibilities (planning, presentation of learning, evaluation and analyzing evaluation results) and as a tool to find and download learning resources. Good mastery by educators and students will enable an increase in the effectiveness and efficiency of the learning process so that the results become optimal. Despite the fact that in Indonesia ICT itself is still not used optimally, both in terms of capabilities and the uneven distribution of technology in the territory of Indonesia. The input given by the author to deal with this obstacle is to optimize the potential of ICT in the regions and conduct training for both educators and students. For further researchers, it is hoped that they can try to conduct literature studies with research with the latest period, various types of research objects starting from schools, universities, boarding schools, and

others in order to increase knowledge and be able to see more broadly about the utilization of ICT in increasing the effectiveness of learning management.

REFERENCES

Abdul Kadir. 2006. Dasar Perancangan Dan Implementasi Database Relasional.Andi. Yogyakarta

Adisel, A., & Prananosa, A. G. (2020). Penggunaan Teknologi Informasi dan Komunikasi dalam Sistem Manajemen Pembelajaran pada Masa Pandemi Covid 19. Journal Of Administration and Educational Management (Alignment), 3(1), 1–10. https://doi.org/10.31539/ alignment.v3i1.1291

Ahyar, J., & Rasyimah. (2018). Learning management of Bahasa in senior high schools. Emerald Reach Proceedings Series, 1, 355–360. https://doi.org/10.1108/978-1-78756-793-1-00009

Alenezi, A. (2018). Barriers to participation in learning management systems in Saudi Arabian universities. Education Research International, 2018.

Arum, I., Rahayu, T., Hidayati, L., & Mayasari, P. (2021). Manajemen pembelajaran daring dalam masa pandemi covid-19 di prodi s1 pendidikan tata busana universitas negeri surabaya. JVTE: Journal of Vocational and Technical Education, 3(1), 30–37.

Back, D. A., Behringer, F., Haberstroh, N., Ehlers, J. P., Sostmann, K., & Peters, H. (2016). Learning management system and e-learning tools: an experience of medical students' usage and expectations. International journal of medical education, 7, 267.

Changwong, K., Sukkamart, A., & Sisan, B. (2018). Critical thinking skill development: Analysis of a new learning management model for Thai high schools. Journal of International Studies, 11(2).

Creswell, J. W. (2010). Research design: pendekatan kualitatif, kuantitatif, dan mixed. Yogjakarta: PT Pustaka Pelajar

Evans, C. (2008). The effectiveness of m-learning in the form of podcast revision lectures in higher education. Computers and Education, 50(2), 491–498. https://doi.org/10.1016/j.compedu.2007.09.016

Gemnafle, M., & Batlolona, J. R. (2021). Manajemen Pembelajaran. Jurnal Pendidikan Profesi Guru Indonesia (Jppgi), 1(1), 28–42. https://doi.org/10.30598/jppgivol1issue1page28-42

Hashemy, S. A., Hayati, D., & Hashemy, Z. (2012). A Survey of the Application of Information Communication Technology in Education. International Journal of Information and Education Technology, 2(1), 57–60. https://doi.org/10.7763/ijiet.2012.v2.83

Hikmah, N. (2020). Manajemen Implementasi Kurikulum 2013 Pendidikan Agama Islam (PAI) pada MAN 2 Model Banjarmasin dan SMAN 1 Banjarmasin. https://idr.uin-antasari.ac.id/id/eprint/13846

Hisbullah. (2020). Implementasi Manajemen Pembelajaran Kurikulum 2013 di MI Darul Khaeriyah Kecamatan Suli Kabupaten Luwu. Jurnal Pendidikan: Didaktika, 9(1), 9–24.

Khotijah, S. (2016). Perancangan Database E-Learning Manajemen System untuk Pembelajaran pada Sekolah Menengah Pertama. STRING (Satuan Tulisan Riset Dan Inovasi Teknologi), 1(1), 65–73. https://doi.org/10.30998/string.v1i1.970

König, J., Jäger-Biela, D. J., & Glutsch, N. (2020). Adapting to online teaching during COVID-19 school closure: teacher education and teacher competence effects among early career teachers in Germany. European Journal of Teacher Education, 43(4), 608-622.

Kunter, M., Klusmann, U., Baumert, J., Richter, D., Voss, T., & Hachfeld, A. (2013). Professional competence of teachers: effects on instructional quality and student development. Journal of educational psychology, 105(3), 805.

Marjuni, A., & Harun, H. (2019). Penggunaan Multimedia Online Dalam Pembelajaran. Idaarah: Jurnal Manajemen Pendidikan, 3(2), 194. https://doi.org/10.24252/idaarah.v3i2.10015

Mashuri, M., & Hasanah, E. (2021). Manajemen Pembelajaran Bahasa Inggris dalam Meningkatkan Hasil Belajar Siswa saat Pandemi Covid-19 di SMA Muhammadiyah 3 Yogyakarta. Diglosia: Jurnal Kajian Bahasa, Sastra, Dan Pengajarannya, 4(2), 227–234. https://doi.org/10.30872/diglosia.v4i2.174

Mohammadi, M. K., Mohibbi, A. A., & Hedayati, M. H. (2021). Investigating the challenges and factors influencing the use of the learning management system during the Covid-19 pandemic in Afghanistan. Education and Information Technologies, 26(5), 5165-5198.

Musungwini, S., Mugoniwa, B., Furusa, S. S., & Rebanowako, T. G. (2016). An analysis of the use of cloud computing among university lecturers: a case study in Zimbabwe. International Journal of Education and Development Using Information and Communication Technology, 12(1), 53–70. http://files.eric.ed.gov/fulltext/EJ1099577.pdf

Park, C., Sung, D. O., Han, C. D., Jang, Y. H., Lee, H. J., Yoo, J. S., & Yoo, K. H. (2009). COLMS: Components Oriented u-Learning Management Systems in Ubiquitous Environments. International Journal of Contents, 5(1), 15-20.

Pima, J. M., Odetayo, M., Iqbal, R., & Sedoyeka, E. (2016). Assessing the available ICT infrastructure for collaborative web technologies in a blended learning environment in Tanzania: A mixed methods research. International Journal of Education & Development Using Information & Communication Technology, 12(1), 37–52. http://search.ebscohost.com/login.aspx?direct=true&db=eue&AN=115161972&lang=es&site=ehost-live%5Cnhttp://content.ebscohost.com/ContentServer.asp?T=P&P=AN&K=115161972&S=R&D=eue&EbscoContent=dGJyMNLe80Sep7Y4v%2BvlOLCmr06ep7FSsKq4SrKWxWXS&ContentCustomer=dGJ

Rafsanjani, J. I., & Handayani, S. N. (2021, January). The Adaptation of Public Service During the Covid-19 Pandemic. In 2nd International Conference on Law and Human Rights 2021 (ICLHR 2021) (pp. 360-365). Atlantis Press.

Richards, C. (2006). Towards an integrated framework for designing effective ICT-supported learning environments: the challenge to better link technology and pedagogy. Technology, Pedagogy and Education, 15(2), 239-255.

Saifulloh, A. M., & Darwis, M. (2020). Manajemen Pembelajaran dalam Meningkatkan Efektivitas Proses Belajar Mengajar di Masa Pandemi Covid-19. Bidayatuna: Jurnal Pendidikan Guru Mandrasah Ibtidaiyah, 3(2), 285. https://doi.org/10.36835/bidayatuna.v3i2.638

Sarilan, N. S., Akhyar, M., & Suryono, H. (2020, November). Civics Learning for Building Smart and Good Citizenship Characters In High School Level. In ICSSED 2020: The Proceedings of the 4th International Conference of Social Science and Education, ICSSED 2020, August 4-5 2020, Yogyakarta, Indonesia (p. 357). European Alliance for Innovation.

Song, W. W., Forsman, A., & Yan, J. (2015). An e-Curriculum Based Systematic Resource Integration Approach to Web-Based Education. International Journal of Information and Education Technology, 5(7), 495–501. https://doi.org/10.7763/ijiet.2015.v5.556

Stemler, S. (2000). An overview of content analysis. Practical assessment, research, and evaluation, 7(1), 17.

Unesco. (2011). Education for All Global Monitoring Report. http://www.edukasi.kompas.com/read/2011/03/04463810/peringka.pendidikan.indonesia.turun/

Visscher, A., Wild, P., Smith, D., & Newton, L. (2003). in English secondary schools. British Journal of Educational Technology, 34(3), 357–367.

Vizeshfar, F., & Torabizadeh, C. (2018). The effect of teaching based on dominant learning style on nursing students' academic achievement. Nurse education in practice, 28, 103-108.

Walsh, S. (2002). Construction or obstruction: Teacher talks and learner involvement in the EFL classroom. Language teaching research, 6(1), 3-23.

Wong, A. (2016). Student perception on a student response system formed by combining mobile phone and a polling website. International Journal of Education & Development Using Information & Communication Technology, 12(1), 144–153. http://ezproxy.swu.edu:2048/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=eft&AN=115161963&site=eds-live