Systematic Literature Review (SLR): Implementation of Flip Classroom Using Learning Management System (LMS) to Improve Students' Learning Independence

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ABSTRACT

Digital learning began since the Covid-19 pandemic and because of the increasingly sophisticated development of the era, the education aspect has been affected to make changes towards digital, including in the learning process. This study aims to determine the application of flip classroom using a learning management system (LMS) to increase student independence. The method used in this study is a systematic literature review (SLR) by identifying and interpreting the overall research results obtained. The articles used in this study, as many as 20 national and international journal articles that are closely related to keywords obtained from Google Scholar with the help of the publish and perish application in 2017-2024. Article data is presented in the form of a table that includes the author's name, year of publication and research results which will later be analyzed and summarized into one complete discussion in this study. The results of this study based on a summary of 20 journals show that the application of flip classroom in the classroom using various LMS can increase student independence because it can make students more active, critical, and innovative.

Keywords: Flip Classroom; Learning Management System (LMS); Students learning Independence

INTRODUCTION

Learning digitally already done since the occurrence revolution 4.0. Revolution 4.0 is indeed has create a learning process in education become a digital system called with education 4.0. Education 4.0 is a series activity learning and teaching with involving technology education during the learning process (Ciolacu et al., 2019). In line with matter said, according to Surani(2019) implementation education 4.0 can give Lots benefit that is can make student think in a way critical, creative and innovative, can assess and analyze ability students, as well as can to form Human Resources (HR) who are ready use in face global competition.

There are nine tendencies from Education 4.0 according to Fisk in Anaelka (2018), including: First, participants educate can Study When and where only. Second, learning with technology education 4.0 personalized only For participant educate That themselves. Third, participants educate own choice in a way independent to method learning. Fourth, in learning education 4.0 participants educate more Lots given task

based on *project.* Fifth, participants educate will get more experience and knowledge wide. Sixth, in learning in education 4.0, participants educate trained For think critical, creative and innovative. Seventh, the assessment given to every participant educate are different. Eighth, each activities carried out participant educate in learning always analyzed For update curriculum that has been implemented . Ninth , participants educate sued For Study independent .

For can success in apply education 4.0, is needed a skilled educator in use technology (Kusmiarti & Hamzah, 2019). Activity learning online sue student For own independence in learning . Independence learning (self regulated learning) is needed by students in build concepts and principles that have been studied . In the flip classroom which is one of the example from the blended learning strategy which has freedom in learning , because student given freedom For access various information in a way independent in the learning process . This is put importance independence student (Shih & Huang, 2020). Implementation learning with the Flip Classroom model you can supported by *a Learning Management System* (LSM) such as *Google Classroom* , *Moodle* , etc. (Ima Frafika Sari, 2020)Implementation learning *on line* become Supporter from activity learning look at the face that has not been completed in the institution education so that in situation and conditions like whatever participant educate can learn and improve his knowledge so that can increase independence student .

Independence student become aspect important in increase results Study student Because the more High Level of Education of Students so the more sued For independent in Study Because matter This in line with research conducted by (Ranti et al., 2017; Yustitia et al., 2021). For make student become independent in Study can assisted with use of LMS in the flip classroom learning process . The implementation of flip classroom provides Lots benefit like student will own extensive knowledge Because independent in dig information related material learning , more active and creative as well as critical in respond to a case certain (Aisyah et al., 2020; Sari et al., 2022).

Study related learning independent in online learning is still Not yet Lots investigated as learning independent with offline learning . Then deep article this , researcher do study library that can used as studies literacy and guidance in researching more continue and develop understanding learning independent in online learning .

METHOD

This study uses the Systematic Literature Review (SLR) method. This method is carried out starting from identifying to interpreting the overall research results obtained. With this method, researchers systematically review and identify journal articles according to the steps that have been set (Triandini et al., 2019). Based on these stages, researchers collect journal articles with combined keywords from student learning independence, learning management system (lms) and flip classroom. Data collection is carried out by documenting all articles obtained in this literature review article. The articles used in this study are 20 national and international journal articles

that are closely related to the keywords obtained from Google Scholar with the help of the publish and perish application in 2017-2024. Article data is presented in the form of a table that includes the author's name, year of publication and research results which will later be analyzed and summarized into one complete discussion in this study.

RESULTS AND DISCUSSION

Results

Of the research data contained in This literature review is analysis and summary article documented related implementation of flip classroom with use a learning management system (LMS) to increase independence students , including :

Research conducted by Duwi Novita Sari et al.,(2022) in journal Journal of Language, Literature, and English Teaching (JULIET) shows results study show that implementation of flip classroom with using LMS (Learning Management System) at STATE SENIOR HIGH SCHOOL 6 Tanjungpinang Enough okay . Then research conducted by Zainuddin & Perera (2018), in journal On the Horizon (Emerald Insight) , which in study the the result is Flip classroom has start designing repeat room learn and promote learning active through practice video -supported teaching . This study give description general about class upside down and the benefits obtained student from the amount online content uploaded to the LMS. Flip classroom has change paradigm learning , enabling student own autonomy in speed Study independent and become used to with eye video lectures that promote effective learning . This study ended with implications For study more further in the field this . More furthermore , research conducted by Ugwoke et al. (2018), in journal Library Philosophy and Practice, results study in journal the is flip classroom on LMS more effective than method teaching look at advance conventional . Researchers conclude that average height attained by the group experiment is as results from interaction student-to-student , collaboration faculty-to-student , features interactive LMS, and mentoring as well as approach based on actives provided by the class model upside down on LMS.

Research conducted by Ramadhani et al.,(2019) in journal Journal for the Education of Gifted Young Scientists, which has results study that is the average result Study mathematics students being taught using FPBLM based on LMS Google Classroom experienced significant improvement compared to with learning conventional . The results of the 5- questionnaire in learning also obtained results that 2nd grade high school students feel enthusiastic , motivated and passionate in follow classroom learning . Learning digital- based with the FPBLM model on LMS-Google Classroom provides experience new for 2nd grade high school students in follow learning mathematics good in class or outside class . More carry on research conducted by Baig & (2023)Yadegaridehkordi , in journal International Journal of Educational Technology in Higher Education . The results of his research that is Activity pedagogical certain in various courses that contribute to the effectiveness of flip classroom in education high . Furthermore, research conducted by Aulianda et al .,(2023) in journal International Journal of Emerging Technologies in Learning, results his research that is Findings study library show that LMS implementation and features

used in the learning process impact on various aspect learning . Pramita et al.,(2018) in journal Atlantis Press has results study that is Implementation of flip classroom in the method numeric can increase activity and independence student .

Research conducted by Pozo-Sánchez et al . ,(2022) in journal Review Electronica de Investigación Educational own results study among other things, the use of LMS in implementation flip classroom methodology provides contribution to optimization of learning process teach in a way general . Putra et al.,(2019) his research in journal The Indonesian Journal of Social Studies has results study namely 1) The application of the flipped classroom model (X) has an effect to independence Study students (Y1) who are proven with mark significance of 0.000 where mark is < 0.05 then Ho is rejected and Ha is accepted and this means hypothesis accepted . Its influence significant , which is proven with the calculated t value is 4.313 > the t table value is 1.675 with mark significance 0.00 < 0.05. Appropriate with criteria , if t count > t table , then Ho is rejected and Ha is accepted . Therefore that , there is positive and significant influence related implementation of the flipped classroom model independence learning , and 2) Implementation of the flipped classroom model (X) has an effect to ability cooperation (Y2) which is proven with mark significance of 0.001, where mark is < 0.05, then Ho is rejected and Ha is accepted and this means hypothesis accepted . Its influence significant, which is proven with the calculated t value is 4.313 > the t table value is 1.675 with mark significance 0.00 < 0.05. Appropriate with criteria , if t count > t table then Ho is rejected and Ha is accepted . Therefore that , there is positive and significant influence between application of the flipped classroom learning model to ability collaboration students . Then research conducted by Altemueller & Lindquist (2017), in journal British Journal of Special Education, shows results his research that is Study beginning show that flip classroom can useful . Information given about practice inclusive from various countries that are useful for student with difficulty learning , as well as strategies and resources Power for individuals who may want to apply class backwards .

Study Similar research was also conducted by Abror & Arianto , (2024), Munzil et al., (2022), Öztürk & Çakıroğlu , (2021), Yoon et al., (2021), Rasheed et al., (2020)who discussed related with a flip classroom with a learning management system (LMS) you can increase independence students , things the known from results study they among others (1) There are influence learning based on problem in environment class backwards to independence learning , (2) There is influence learning based on problem in environment class backwards to skills breakdown problem , (3) There is influence motivation Study to independence learning , (4) There is influence motivation Study to skills breakdown problems and also groups experiments that use support learning independent show level skills learning independent , involvement behavior in session pre-class , engagement cognitive in session in class , involvement emotional in session before and inside class , and performance more learning tall compared to group control .

In addition , there are research conducted by Silverajah et al., (2022), Setianingrum et al., (2022), Rosmayanti et al., (2020), Zainuddin et al., (2019)and Ndoa & Jumadi,(2022) related with flip classroom, learning management system (lms) and

independence students who demonstrate results , among others, are highly recommended for future educators and researchers For integrate characteristics important from learning backwards as demonstrated by the four pillars (FLIP) : flexible environment , culture learning , intentional content , and educators professional . In the end , things This justify success integration class backwards to in learning and facilitating development of regulated learning strategies Alone Because will to form independence student in learning . In addition (1) The flipbook- based science module is suitable used , seen from percentage eligibility module 96.73 % (very appropriate), (2) Response student to module is in the very good category , seen from percentage interest to module by 90.00% (very interested), and independence students science learning with use flipbook assisted science module includes in category high , with percentage by 86.25% (independence study high science). And with use lms in implementation of flip classroom for students will motivated For enter to LMS for objective learning.

Discussion

Learning independence is a skill to carry out teaching and learning activities independently to complete the given case study (Amalia et al., 2018). Through independent learning, students can develop an independent character in Education and increase motivation to take the initiative, be innovative, critical, and responsible in solving problems.

According to Suryani, independent learning (2020)has the following characteristics: (1) individuals design learning according to their needs; (2) individuals choose learning tips and implement learning designs; and (3) individuals monitor their learning progress, evaluate their learning outcomes and compare them with certain standards. Based on the results of the study in the table shows that the implementation of flip classroom using lms is more effective than conventional teaching methods. This makes students more active, enthusiastic, and motivated in participating in learning in the classroom (Ramadhani et al., 2019). Furthermore, research conducted by Baig & Yadegaridehkordi, (2023)said that learning activities implemented using flip classrooms have proven effective in higher education. Research conducted by Aulianda et al., (2023)the use of lms is very helpful and has an impact on aspects of learning because it can provide learning satisfaction, involvement, learning experience, comfort, and independence so that it can improve student learning outcomes.

In addition, from the results of the study it can be seen that independent learning has a positive influence on learning. Independent learning can also improve students' understanding, motivation, reasoning, and learning outcomes. They realize the importance of different learning abilities in education. This independent learning ability should be something that needs to be considered and improved. Especially in online learning, this independent learning has a significant impact on student learning outcomes. If students have low learning independence, students do not get optimal learning outcomes.

CONCLUSION

Based on theoretical studies on the implementation of flip classroom using a learning management system (LMS) for student independence, it has good results because it can provide student independence in learning, especially by using various LMS such as Google Classroom, Moodle, Shoology, and others because students seek information from the material before learning begins and solve problems given based on case studies. This certainly makes students active, creative, innovative and responsible for the learning that occurs in the classroom.

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