The Flipped Model Using Kelas Maya Jejak Bali to create Balinese Digital Character in Education 4.0

by

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Abstract

This paper was aimed to describe the implementation of Flipped classroom model combined with the use of Learning Management System (LMS) Kelas Maya Jejak Bali as the effort to create golden generation of Bali. The subjects of the research were class tenth of SMAN 2 Banjar in the odd semester of academic year 2018/2019. The data was collected by using test, observation sheet and questionnaires, then, analyzed qualitatively and quantitatively. The learning model implemented was Flipped classroom. Flipped encouraged the students to learn anywhere, anytime, and with anyone through online LMS Kelas Maya Jejak Bali. The activity was conducted the days before face to face classroom activity. The students studied the online learning material, played the video lessons, accomplished and submitted the tasks and the quiz given. They collaborated in the forum discussion activity, and the last, the students had to follow the final online exam. The study shows that the learning activity was done in a variety of learning and meaningful digital literacy in the combination of face to face and online activity. The students' average score increased and they felt happy during learning process as well. In conclusion, the LMS Kelas Maya Jejak Bali with the features available in the combination with Flipped classroom could be an alternative to build digital literacy and to create Balinese character in education 4.0.

Key words; *flipped classroom, Jejak Bali, digital literacy, education 4.0*

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I. Introduction

1.1 Background of Study

Nowdays, the industrial revolution 4.0 had changed the life of human rapidly and specifically to Balinese who still preserved its unique culture, we never expected that the invention of internet affecting on our daily life today. From the morning arise untill the night fall, the technology especially the use of gadget never released from our hands. It also happened to our students,gadget such as smartphone, laptop, tablet and others had become prime human needs. Most students had already owned smartphone. They mostly used the smartphone just for playing online game and social media such as facebook, instagram and watching entertainment video on youtube. Only few students used the smartphone for searching video lessons. The informal interview showed that the students using the smartphone for game and social media because they do not have any tasks from the teacher to use thier device for learning process. Whereas, if the gadget was properly used, it would become the source of inovative learning.The writer also found problems when teaching in the classroom.The writer was not satisfied because the students only had restricted source of learning. They only had the only one main source of learning that was the book given by the school. When the teacher gave them task or homework, they seldom to use their smartphone as the source of learning, sometimes, they used the smartphone or their laptop just for using the google translation. This learning activity seemed to be out of date. In the tradisonal classroom, the teacher just asked the students to do the tasks, discussit, present it in the front of the class and then gave them homework to be submitted next meeting. The students did not prepared well at home so that in face to face class, the students were not ready yet to learn the learning material. Their prior knowledge were also weak because they did not know what they should learn at home. If they found any difficulty on the learning material, the students were so shy to ask to teacher. They had to give a chance to repeat the content of learning untill they were master of it. This activity also became unmotivating.In case, the writer sometimes got official work travels of out-of-townin order to join any seminar or workshop, the writer often found difficulty to monitor the students activity in the classroom whether they did the task given. The teacher needed a distance learning model and application to solve the problem. The background of study also supported by the average score gained by the students on the test was still low.

Hence, to overcome such problems above, the writer tried to implement Learning Management System (LMS) kelas Maya Jejak Bali and Flipped classroom to the tenth grade students of SMAN 2 Banjar. LMS Kelas Maya Jejak (Jejaring Jelajah) Bali or Exploring Networking of Bali was LMS created and designed by the Bali Province Government and Ministry of Education especially under joint coordination between Pustekkom (ICT Centre of Education) and Education office of Bali Province which used freely for the development of e-Learning in Bali province 2018. The LMS would be combined with the Flipped classroom in which the students had to learn the learning content minimal a day before face to face classroom via LMS Kelas Maya Jejak Bali. It was online learning activity, so that the students had to use their gadget for learning activity at home. We have to realize that many of us more enjoy to stay at home comforts and would prefer to have studied the lessons on the sofa with a cup of tea rather than in crowded classroom and sat on a wooden chair. According to Sanders and Morriston-Shetlar, (2001) being in safe, and comfortable surroundings, it will allow the learner to be relax, more concentrate and give 100% to their learning process.

1.2. The research Objective:

The study was aimed to know whether the implementation of Flipped learning model in the combination with Learning Management System (LMS) Kelas Maya Jejak Bali could create Balinese Digital Character in education 4.0

1.3 The research Hypothesis

The hypothesis could be stated as follows;

The Flipped Model Using Kelas Maya Jejak Bali could create Balinese Digital Character in Education 4.0

II. Literature Review

2.1 Flipped Classroom

A flipped learning classroom is a kind of learning approach that change and move traditional learning process outside of the traditional classroom setting activity and brings take-home the classroom activities such as discussions activity, case studies and simulation activity into the home of the students. The result of the flipped, active learning is gained during the classroom time through the facilitation of the teacher (See and Conry, 2014). Students can watch video lessons or video learning content online at their homes and use class-time of face-to face classroom to carry out activities (Roach, 2014). In applying where interactive content and visuals are more forefront, students take more significant role in the learning process, if we

compare to traditional learning activity (Ozdamli and Tavukcu, 2016; Ozdamli and Asiksoy, 2016).

According to Bergmann et al. (2015), the definition of a flipped learning model is the replacement of direct instruction with the use of video lessons and the encouragement of students to focus on important learning activities with their teachers inside the classroom activity. Although there is an information gap concerning about the flipped classroom, it can be clarified as a personalised education where the students take responsibility of their self personal learning. In addition, the flipped classroom allows the teacher to be a facilitator. The flipped also increases the interaction between teacher and student personally. Some experts also said that the flipped classroom can also be explained as the establishment of problem-based learning inside the class by replacing direct instruction of the teacher in the traditional classroom with video lessons in order to provide instructional content that can be accessed by students anytime and anywhere as their wishes (Bergmann and Sams, 2012; Hamdan et. al., 2013). Hamdan et. al. (2013) stated that instruction could be delivered by recording and creating videos of teachers giving lessons or by gathering video lessons from trusted internet sites for example youtube.

2.2 Learning Management System

According to Lonn and Teasley (2009) Learning Management Systems (LMS) are web-based systems that enable for teachers and students to share learning materials, to submit the task given and return assignments and to communicate via online. An LMS is characterized by the integration of multiple media, resources, and presenting information in an organized manner to fulfill its main purpose, which is the construction of learning through interaction. It is also important to note that a well planned course, based on innovative. The Learning management system (LMS) has been developed in the National Research University, the Higher School of Economics (HSE) Nizhny Novgorod since 2010. The purpose of the system is to increase the level and the quality of methodical, didactic, information support for educational process for all the participants: students, teachers, and managers of different faculties. LMS offers obvious advantages and benefits but both teachers and students are reluctant to use the system. Besides, teachers blame social media, Facebook in particular, for low level of involvement and help them overcome difficulties and problems.

2.3 Kelas Maya Jejak Bali

Kelas Maya Jejak Bali is one of Learning Management System that designed specifically and free-widely used for senior high school and vocational school in Bali. The LMS was created by the joint coordination between the ICT Centre of Education of Ministry of Education and Culture of the Republic of

Indonesia and Education office of Bali Province Government in order to support the Bali government policy to implement e-learning for all high school and vocational school in 2018 under the governance policy of the former governor of Bali; Mr. Bapak Made MangkuPastika. Kelas Maya Jejak Bali was officially launched on Monday 27 Agustus 2018 at Widya Sabha Building, in the Governor of Bali Office area.

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elas Maya Jejak Bali provided many features for supporting the implementation of e-learning. The features were simple and easy to be used both by the teachers and the students. The teachers have to register, create the class, complete the class with modul such as video learning material, embed youtube learning video, ppt, word, pdf, or any other modul format. The teachers uploaded the assignment to be given to the students in LMS Jejak Bali, joined the forum discussion in order to discuss any topic being delivered to the students. This new learning experience, the students, hopefully, were not reluctant again to express their opinion and ideas. The teacher created online quiz and test in order to check the students' understanding on the modul.

III. Method

The study was carried out on a total of 304 subjects, students majoring in natural science, language and social science programs at SMAN 2 Banjar, Sub-District of Banjar, Buleleng Regency, Bali Province. 102 students of language program, 99 students of natural science program and 103 students of social science program participated in the study. All of the subjects were tenth grade students. They studied English for Literature subject in the odd semester of academic year 2018/2019 from August to November 2018.

The data collected by using three instruments namely; 1). Test; used to collect students' achievement during learning and teaching process using Flipped learning and LMS Kelas Maya Jejak Bali. The Data gained from the test would be analyzed quantitatively 2). Questionnaires were used to gain data information of the subjects about their opinion on the implementation of Flipped and LMS Kelas Maya Jejak Bali. The questionnaire, consisting of ten questions, contained a mix of question types, in which the students were asked to estimate the usefulness of LMS Kelas Maya Jejak Bali and Flipped learning in learning English for literature subject. The results from the questionnaires were discussed descriptively and qualitatively. 3). Observation sheet in order to record the students' activities in the classroom. The sample of population for the questionnaire was based on Slovin formula (Sugiyono, 2013).

This study was quantitative and qualitative action research project, the procedures for the flipped classroom had to be created especially the video lessons and the application of Learning Management System (LMS). Each

video was created using a powerpoint, using the writer's smartphone to record the writer's video lessons and mixed using some application in the laptop. The YouTube video learning lesson was then linked and embedded into LMS Kelas Maya Jejak Bali. Mostly students had owned smartphone and few used a laptop and by rest did not have gadget, so the writer asked them to borrow his/her friend's gadget or come to internet stall. The access to the internet at home were at a disadvantage in the flipped classroom model. Students who did not have internet access were given an alternate path to obtain the videos and assignments, played without internet access, ensuring all material was given to students. The study was regarded success since the average main score individually and classically above the school passing grade ≥ 65 .

IV. Result and Discussion

The purpose of this study was to examine the implementation of Flipped classroom in the combination with LMS Kelas Maya Jejak Bali on students' achievement in a tenth grade English for Literature classroom. A number of data points were collected throughout the study to analyze potential growth. The first data showed was the result of the test or quiz given to the students from the first lesson to the third topic could be seen with following graphs;

Figures 1, Students' achievement of using Flipped and LMS Kelas Maya Jejak Bali

As shown in Figures 1, LMS Kelas Maya Jejak Bali with Flipped classroom activities proved to be helpful in increasing student's achievement. The average scores grew from every lesson started from the test; as much as 30% in one particular lesson. Individual student scores grew as well. Tests were given after each lessons through online quizzes in Kelas Maya Jejak Bali.

Tests offered students a chance to showcase their knowledge of the concepts. The low test scores could be attributed to students' prior knowledge of the concept on lesson one. The students still gained scores below the criterion of success because they found difficulties in using online LMS and learning by implementing Flipped Classroom for the first time. The students scored well on the lesson two and lesson three because they were able to recount their experience with the new materials such as the use of video materials and modul in Kelas Maya and The students also had a chance to replay the video lessons until they understood and it applied to their prior knowledge. They began to be accustomed by using Flipped model in their daily learning activity.

Based on the test result above, the Flipped teaching method might have been more successful than the traditional model because new concepts were introduced to the students. The Flipped model provided many positive results in a number of areas throughout the project, but results showed that students struggled to understand and apply unfamiliar concepts. For future implications, understanding what the students know, or do not know, would help to determine which teaching method is best for increasing student's achievement.

It was about 170 sample of students were given a questionnaires to identify students' personal data to the flipped classroom with the combination of LMS Kelas Maya Jejak Bali. Students were asked to fill out questionnaires about their feelings on the implementation of LMS Jejak Bali and Flipped Classroom to their learning activity. They were asked to answer each item as honestly as they could and reflect on the processes in English Literature from the previous lessons. The next few figures present that data found from the questionnaires. Students were asked to rate themselves from fully disagree to completely agree on how they perceived the videos lessons, the task given, the sharing ideas in the forum discussion features that available in LMS Kelas Maya Jejak Bali through Flipped learning activity. Students completed the questionnaires by filling out the link (<https://goo.gl/forms/6sbtqfsfolh7rENS2>). The writer asked the students completing the questionnaire in school computer laboratory. The study revealed that was about 88,75% of the students agreed that the combination of Flipped model and LMS Jejak Bali were helpful.

NO	Statements	FD	D	A	CA
1	Learning through LMS Kelas Maya Jejak Bali is interesting and helpful		1,18%	88,82%	10,00%
2	Learning through Flipped Classroom is interesting and helpful		1,75%	85,96%	12,28%
3	LMS Jejak Bali and Flipped Classroom makes the students		0,00%	86,63%	13,37%

	easily learning it anywhere and anytime.				
4	LMS Jejak Bali and Flipped Classroom can create students to be digital literate		1,16%	89,60%	9,83%
5	Forum Discussion feature makes the student to be confidence to express ideas		2,87%	86,21%	10,34%
6	The submitted assignment feature with its time limit setting make the student to be discipline and responsible		3,43%	92,00%	4,57%
7	Video learning materials can help to understand the lessons better.		0,00%	89,20%	10,80%
8	Announcement feature gives information about what the stusents have to do and to accomplish in LMS Kelas Maya		1,69%	85,88%	12,43%
9	Online quiz is very useful to check the student understand to the content of each chapter.		2,25%	92,70%	5,06%
10	Online Test feature is very useful to know students comprehension on the lessons given		1,68%	90,50%	7,82%

Note FD: Fully Disagree, D: Disagree, A: Agree, CA: Completly Agree

Figure. 2 Students responses to LMS Jejak Bali and Flipped Classroom

The students who responded negatively said that they did not have personal gadget such as smartphone to be active in online learning. Some students said that the remote area made them difficult to search for internet signal. The others said that they found any error, problems, difficulties in uploading the task, login in Kelas Maya Jejak Bali. When the students followed the online and test was challenging because they had to set the time into UTC+07 Jakarta time zone and pop ups in browsers.If they forgot to set it, the students had to ask the teacher to reset it. For them, it was unefficient.

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he result of the reseach paper could be explained in details as follows; In introducing Learning Management System Kelas Maya Jejak Bali for the first

time, the writer took two different ways; The first way, the students were asked to bring smartphone, and then they were asked to gather in the school field. They were guided how to register by typing the link on the search browser menu : <https://belajar.kemdibud.go.id/jejakbali> and login in LMS Kelas Maya Jejak Bali. When it was done, the situation was not supported because it was so crowded and the LCD projector unseen clearly by the students, so the writer decided to take the second strategy on another day. The second way, the writer asked the students to come to ICT Laboratory in order to register, login, search the class, follow the class, study the features available on LMS Kelas Maya Jejak Bali. The students were also guided on how to download modul, watch video lessons, upload the task before the due time, how to set the smartphone, gadget and computer time to be UTC+07 and pop ups setting in the browsers in order to follow online quiz and test. They also explained that the the next upcoming lessons activity would be held in Flipped learning classroom. They had to open Kelas Maya Jejak Bali, read and study the modul, upload the task given, watch the video lessons, did the assignments, did the quiz in a week before the face to face classroom activity held at thier own home.

The students who had already succeeded to register and fast learners of using LMS Jejak Bali and Flipped classroom, were asked to be a peer tutor to help their slow learner friends or to whom got connection problems. Involving students as peer tutor could make the process of introducing the learning model running well. The students who got a guidance from thier close friend was unreluctant to ask if they found problems. Some students that used to play with social media such as facebook, youtube and instagram, were easily directed to utilize their gadget for learning activity in Kelas Maya Jejak Bali.

LMS Kelas Maya Jejak Bali also tried to create students to be competence in effective communication by providing forum discussion feature. The forum discussion in Kelas Maya Jejak Bali allowed the teacher and the students sharing their ideas without any burdens. The students were freely to share any ideas and respond teacher throwing topic dicussion. The teacher should always monitor the topic being discussed by the students. The most important should be done by the teacher in forum discussion was he had to respond students' comments, interacted with students' ideas, greet them. This activity seemed simple but it could creat emotional feeling to the students. The students felt their ideas andopinion were appreciated by the teacher. On the assigment activity through the implementation of Flipped learning model, the students were given a task from the simplest and interesting to make them enjoyable and comfortable in using LMS Jejak Bali. Flipped learning let them studying the modul anywhere and anytime and submitting the task before the due time. The students would be having well comprehension on the lessons given and they already had prior knowledge before the face-to face classroom. By giving the students a limit time to submit the task in LMS Jejak Bali would

learn them how to be discipline and responsible for themselves. For those who were late to submit the task would get punishment on the score of the assignment. The evaluation activity through Jejak Bali especially on quiz online was given from low thinking skill to require higher thinking skills in order to attract students in using LMS Jejak Bali and did the Flipped learning activity on their home. In the test online activity, the students had to be given a chance to reset because many students still had obstacles in using technology of LMS Jejak Bali, they often forgot to set the time to be UTC+07 and pop ups setting in browsers. If the problems still occurred, the teacher could facilitate the students to come to the ICT laboratory.

The implementation of LMS Jejak Bali and Flipped learning activity had to be adjusted to the characteristic of curriculum 2013. In the curriculum 2013, the scientific approach was used at the main consideration in the classroom activity through its five steps namely; observing, questioning, experimenting, associating and communicating. In Flipped learning, the activity of observing of scientific approach could be done at home before the classroom activity. The students were asked to log in their Learning Management System (LMS) Kelas Maya Jejak Bali and download the modul learning materials to be studied at home. They were asked to understand the content. The assignment feature in LMS Jejak Bali was the place for the students to upload the task given in order to know whether the students studied the modul or not in and they had to submit it in the due time. In Flipped learning model, the students had already gained the knowledge the days before the meeting session in the real classroom. The instruments used in Flipped was the video that already been created and uploaded on Youtube. The learning activity seemed to be more attractive. The use of video made the learning activity to be more flexible because it could be rewinded, paused or played several times in their gadget at anywhere and at anytime. In questioning step, the students were asked to take apart in discussion through forum discussion feature in LMS Jejak Bali. In collecting data or experimenting step, the students were asked to find source of learning in The book or in the internet and in the modul given. Meanwhile, the associating and communicating could be done in the classroom activity. Flipped classroom could be stated as the pre-classroom content activity. It means that the students came to the class with well prepared knowledge of the lesson. The classroom activity mainly focus to aid if the students facing problems in Flipped classroom, do grup discussion and to present the study at the front of the classroom.

In the classroom activity, The meeting session either could be done in ICT Laboratory since the school not allowing the students to bring mobile phone at school or in the classroom. Using ICT Laboratory would give a new atmosphere of learning because the ICT laboratory room usually only used by the ICT Teacher. In the face to face classroom, the activity could be blended

both online, group work discussion and presentation activity. The students rechecked again the understanding of the modul, checked the task submitted, replay the video learning contents through LMS Jejak Bali.

In the quiz and test online via LMS Jejak Bali, the students knew the result of the test directly, so that, it would encourage them to study more seriously in order to achieve good score in the test.

The study also revealed that students' interest in learning especially learning English Literature subject incresed. It could be seen from the questions asked by the students; one of the questions arouse was the questions coming up from the student who knownvery lazy and unmotivated to submitt the assignment given. Suddenly, he approached and asked the writer,"Sir, have my submitted assignment already appeared in your class? Another student said;" Sir! I have followed the quiz! How was my score? I only got 68! Could I pass the passing grade?" Sir! When do we study again at ICT laboratory, it is challenging to use computer in learning activity?" The others students told me other questions that was;" Sir! The video lessons are attractive and it make me comprehending to the topic of learning more understandable!". There were any other classes that were not taught by the writer asking about the reason why they were not taught by the writerindeed. They wanted to study by using e-learning and Jejak Bali. For the writer, it was good expectancy that the implementation of LMS Jejak Bali and Flipped model gave a significant positive effect to develop inovatif learning experience for the students in Bali. 2. The students were very enthusiastic doing all the activities provided in LMS Kelas Maya Jejak Bali; they studied the modul, played and rewinded the video lessons, join the forum discussion, do the quiz and the online test without any burden. They could study the learning materialsat anywhere and anytime. Their achievement tended to increase if it compared to those students who were unenthusiastic to seriously follow the instruction of Flipped learning. Flipped learning made the students had an opportunity to understand the learning materials more clearly because they could reread, restudy, and rewind the video lessons. 3. It gave the students a new of learning activity in using their gadget in order to study, did not just merely use for updating social media and playing game online. They just realized that their smartphone could be used as the tools of learning.The students got a new way of using technology in their teaching and learning process beyond their imagination 4. The LMS Kelas Maya Jejak Bali and Flipped learning class would create a new digital era and 21st century learning inovation especially for Senior high school and vocational school in Bali. 5. It also supported the Bali Governance Policy in implementing distance learning and digital learning in 2018. 6. Flipped learning supported the digital literate because in its learning process, technology appereared in the life of the Balinese students learning daily activity. 6. LMS Jejak Bali was free learning system specifically designed by the goverment of Bali in order to

create Balinese Digital character in education 4.0. It means Balinese future generation were capable in using technology for their life, having 21st competencies and they still preserved and never forgot to their self identity as Balinese with its unique culture heritage.

V. Conclusion and Suggestion

LMS Kelas Maya Jejak Bali as the 21st century learning innovation that specifically developed in Bali aimed to encourage the implementation of e-learning in 2018. The policy of developing the system of learning was mainly to transform the students of senior high school and vocational school in Bali to be literate in this digital era. It also made the students to be more confident in sharing their ideas, be more discipline in submitting the assignment given, more responsible to their task and they were aware the positive side of using technology for learning activity. In the combination of Flipped learning classroom could create new variation of learning and teaching process outside the traditional classroom especially online learning and the video used creating new atmosphere of mastery learning. All the activity done through LMS Kelas Maya Jejak Bali combined with the Flipped classroom was to create Balinese Digital character in education 4.0 who literate in digital technology and never forget to preserve its ancestor heritage culture.

In this study, there were some suggestions such as; 1). For students, teachers and the schools in Bali, please used the LMS Jejak Bali freely and widely in order to give new experience of digital literacy in education. 2). For the government of Bali especially the education office of Bali socialized, motivated and conducted any more workshop of how to use LMS Jejak Bali for Bali education 4.0. 3). For ICT centre of Education, Ministry of Education Republic of Indonesia should always upgraded and updated the system of LMS Jejak Bali with more features.

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