



**BLENDED LEARNING WITH FLIPPED CLASSROOM TYPE FOR ENHANCING QUALITY OF
LEARNING IN VOCATIONAL HIGH SCHOOL: A REVIEW**

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ABSTRACT

Learning in the current disruption era requires a model that can integrate information technology in learning in VHS. This review aims to examine the flipped classroom learning model that is rapidly evolving today. The method was a literature review. The review was conducted on 30 articles in reputable journals. The results show that: (1) The flipped classroom is learning model by face-to-face and online meeting. (2) The flipped classroom is very applicable in vocational education because it accommodates the student activities needed in the vocational world. (3) Flipped classroom procedure: Introduction by providing materials at the online action, then do face-to-face meeting by forming groups, afterward make group assigned tasks, then activate group by discussing works, finally, the group presenting assignments in class. (4) Flipped classroom weakness: the teacher can not control student activity, the readiness of teacher and student, limited the technology

Keywords: flipped classroom, IT, vocational

INTRODUCTION

The learning model is a substantial aspect of teaching and learning process. The model is an essential factor to make a teaching and learning activities more efficient and structured. Each model in learning has advantages and disadvantages. In this case, a learning model cannot be arbitrarily used. The accuracy in choosing the model of learning effects to the success or failure of teaching and learning activities. The selection of learning models considers several aspects such as student characteristics, materials to be submitted, and types of disciplines.

Many teachers in schools (including vocational high schools) currently used traditional forms of teaching, the more dominant role teachers play and students only as good listeners in the classroom. Whereas if outside the classroom teachers gave homework to students, then students completed it alone at home. This kind of learning model is very ineffective for today's students.

The root of the above problem can be identified on the issue of teacher competence, especially on the method of teachers in teaching. In the current digital era, IT (Information Technology) is very influential on the development of education. Teachers competence in utilizing IT to optimize learning is very prominent on the quality of learning. One of the IT-based learning models is blended learning. An essential aspect of blended learning is not meant to eliminate classroom meetings. On online classes, the

material learning and teacher-student interactions happen online; blended learning relies on two aspects: the communication between students and teachers (face-to-face) and online learning. The importance of integration of computer technology with the learning process. Blended learning is intended to optimize face to face with the utilization of information and communication technology (Matukhin and Zhitkova, 2015).

The learning approaches in the widely used blended learning environment are flipped classroom (Thai, De Wever and Valcke, 2017). In addition to accommodating in a blended learning environment, Flipped classroom has an impact on better student learning outcomes (Albert and Beatty, 2014) (He *et al.*, 2016).

Based on the description of this background, a thorough review of the use of the flipped classroom to improve learning is necessary. Teachers do improved teaching methods will have an impact on the quality of learning.

METHODS

This research is a kind of literature review by reviewing 30 articles related to the flipped classroom learning model. The results of the review of this article are used to answer the research question (RQ):

RQ1: what is the definition of the flipped classroom?

RQ2: Is Flipped Classroom able to support learning in Vocational Education?

RQ3: How are the steps to apply Flipped Classroom?

RQ4: What are the factors inhibiting the application of Flipped Classroom on Vocational Education?

RESULT AND DISCUSSION

1. Definition of Flipped Classroom Learning Model

Flipped Classroom is the opposite of traditional learning, which is usually done in class in the traditional learning model to be done at home, and homework in this model becomes implemented in the classroom. Therefore this model is called inverted classroom learning. The flipped classroom is a student-centered learning model for active learning outside and inside the school (Caligaris, Rodríguez and Laugero, 2016).

In traditional learning models, students are given subject matter by teachers in the classroom either through lecture method, group discussion, presentation and so on, then given the tasks to be done at home or commonly called homework. This pattern makes students passive in classroom learning outside the classroom.

While in the flipped classroom, students learn the material first at home either through learning videos, discussing with friends online, summarizing material, making inquiries or reading sources through the internet, books and journals. Thus, students upon arrival in the class must be ready with the material to be discussed or discussed

with the group when the course begins (Rn, 2014). Next, in the classroom is used for group assignments and discussions. A teacher keeps explaining concepts that students have not understood, but only for the reinforcement or deepening of the material.

Reverse class techniques are an educational process whereby classroom activities and homework are reversed (Evseeva and Solozhenko, 2015). Class activities are usually done within hours of teaching, but this is done before the time the lesson begins or can be learned at home. And homework is done while in class instead of at home. Examples of such models have been studied, and the result is students can arouse their interest, especially regarding academics in vocational education such as Vocational High School which has vocational subjects in the school. And this can develop motivation and improve student learning performance.

Also, The flipped classroom model is an educational process where before the class starts students have learned the material to be submitted by the teacher (Patanwala, Erstad and Murphy, 2017). So when the class begins the students have had a mature knowledge preparation related to the subject matter to be discussed and the time spent in the classroom for interactive exercises. Instead, this time is used for discussion with groups of students and teachers as well as expressing opinions and providing criticism and suggestions on the subject matter discussed.

The concept of the flipped classroom is as follows: the traditional learning that is done in the classroom but now, that activities are done at home, and which is traditionally done as homework, now, that action completed in the classroom (Bergmann and Sams, 2012).

2. Supporting factor of the Flipped Classroom in vocational education

Flipped Classroom has emerged as a new approach to delivering learning materials. Invented by Jonathan Bergmann (Bergmann and Sams, 2012). The fundamental goal of this learning approach is to allow for the more effective use of time in the classroom, with teachers providing feedback and helping if students have difficulty with the material being studied (Jonathan Bergman and Sams, 2009; Chiu *et al.*, 2018; Smith, Rama and Helms, 2018). With the support of technology, flipped classrooms can be organized so that students get material outside the classroom, through reading or video material and then using time in the school to assimilate that knowledge, perhaps through problem-solving, discussion, or debate (Wang, 2017; Sojayapan and Khlaisang, 2018). Is the Flipped Classroom relevant for Vocational Education?

The following fact may be a consideration for this learning in vocational education such as:

- a. Students have the opportunity to arrange their own learning. In fact, students can select when and where they do the task. They can organize the subject matter,

whenever they need it, get help online from teachers or other students in a group or forum, ongoing access to material allows students to keep learning if they have to skip classes because of illness or other reasons (Evseeva and Solozhenko, 2015).

- b. The technology of flipped classroom encourages collaboration (teacher to student, student to student) because of joint projects and group work. Also, students engage in peer-to-peer assessments, providing feedback on the work of their group (Marsh, 2012).
- c. Reversing classes increase students' responsibility for self-study. They become more independent, and motivated when compared to traditional classrooms. (Evseeva and Solozhenko, 2015).

Various considerations of the fact of the flipped classroom implementation in vocational education, giving confidence to policymakers in educational institutions to use the flipped classroom as one of the useful learning models in the era of disruption (See and Conry, 2014; Li and Huang, 2017; Minocha, Reynolds and Hristov, 2017; Hao and Lee, 2016). In Indonesia, it is quite challenging to apply the learning flipped classroom evenly because the resources in some areas less support.

3. The procedures of Flipped Classroom Implementation

The learning of flipped classroom is a kind of pedagogic that is enhanced through

the role of technology and has grown to be popular in the world of education. More empirical studies have evaluated the application of this lesson and have proven to be effective especially in this modern era. The flipped classroom is sufficient to apply to vocational education because in this learning model is always tied up with technology and its development from time to time, this becomes an added point for professional, educated students (Lo, Lie and Hew, 2018; Minocha, Reynolds and Hristov, 2017; Wang *et al.*, 2018).

The flipped classroom is a learning strategy that provides new methodologies and modalities for teaching and learning. In China, flipped classroom learning has begun to apply to nursing education. The results show that flipped classroom can help nursing students in improving knowledge, skills, attitudes, independent learning, learning satisfaction, critical thinking, and problem-solving skills. From this, it can be interpreted that nursing education as well as vocational education, that is not separated from vocational. Therefore, the flipped classroom can be useful if applied to vocational education (Lai and Hwang, 2016; Tan, Yue and Fu, 2017).

It can be argued that the flipped classroom has existed on the broader scope of teaching for several years. Flipped classroom takes what's on the previous content and replaces it with what's current or most recent. A good application will also

allow students to learn at their own pace. According to the Institute of Medicine report in 2010, this pedagogy can help students to increase their confidence through independent learning, problem-solving and communication skills.

The steps of flipped classroom implementation will be explained below:

- a. At the first meeting, the teacher gives an introduction to the material to be delivered. After that, if students already have a description of what they will learn later, the teacher gives a video of learning/other learning media to each student whether it is made by the teacher himself or video obtained from other sources. The video contains new material for students. Later learning videos should be watched by each student and studied so that the next meeting students already know about the content. At this stage students can learn independently at home, of course, this is to train student independence, and also train student discipline whether the student is doing it or not. On the other hand, even teaches the extent to which students can understand the material through the video intermediary because students are already accustomed to getting face-to-face teachings directly in the classroom.
- b. At the next meeting, students in the classroom are formed into several heterogeneous groups. It aims to focus more on learning, as well as between

students exchanging ideas, asking what is unclear to one group's friends. The division of such groups trains students to be more capable of communicating and able to contribute to the group. In this case, the teacher minimizes explaining the material in detail to the students, but the teacher maximizes the interaction between the students to each other to better contribute to their learning activities that can enhance and encourage social communication, teamwork, and cultural diversity among students. The student's role has an appropriate change from passive participants to active participants.

- c. After the group is formed, the teacher asks questions for the discussion of each group. Each group gets a different question so that each group can then exchange the results of the discussion. The role of teachers in this session is as a facilitator of each group, if in one group finds a problem that can not be resolved, learners can ask it to the teacher. Later the teacher did not explain in detail but gave some clues to the students themselves who cultivate deeper. Such group learning is also known as the cooperative learning model, which means involving collaborative efforts to achieve common goals in groups with emphasis on teamwork at every step of the process, from learning and helping each other. During this process, each member should be able to work together and be

responsible for problem-solving, emphasizing the relationship between team success and the social skills of the individual in the group (Sojayapan and Khlaisang, 2018).

- d. Each group is required to complete the test/questions that have been given by the teacher, with students doing it sincerely and earnestly. The timing of group discussions is determined by the teacher. Problems discussed cannot be separated from the material in the form of learning videos that have been given by teachers to students at previous meetings. Students are also allowed to explore more deeply through technologies such as the Internet to maximize the results of discussions on groups.
- e. In the final stages, each group is asked to present the results of the group discussion, in the class. Another group is expected to pay attention to the presentation later after the performance, given the opportunity for another group to respond or provide additional material accordingly. After all, groups have completed the display, the teacher will give an evaluation and provide conclusions of all the documents that have been conveyed to each group.

Flipped classroom gives the classroom learning atmosphere to be different and not monotonous; on the other hand, students will also feel comfortable and confident to ask

questions and discuss issues with friends and teachers (Evseeva and Solozhenko, 2015).

From the steps above, it can be concluded that flipped classroom is useful when applied to vocational education. Because not be separated from the development of science and technology and learning strategies are also considered suitable to be applied. Students are given the opportunity to control their learning. They can learn by their ability, besides the students can also choose when and where to start learning is learning video learning obtained from the teacher. Also, the application of the flipped classroom encourages collaboration among students in a group to accomplish the tasks assigned by the teacher. On the other hand, it also enhances students' sense of responsibility regarding home study and group work (Green and Schlairet, 2017). They become more focused and motivated, in other words, the role of students in the learning process changes, making them more active students (Chen *et al.*, 2014; Gloudeman *et al.*, 2017).

4. Inhibition of Flipped Classroom Implementation on Vocational Education

The flipped classroom is a method that prioritizes the activity of students in a learning process. Students are required to actively study learning materials before face to face with the teacher. After that, in a face-to-face meeting, the teacher explains the content that has not been understood by students or answer questions from students.

Therefore, the successful implementation of the flipped classroom method is very dependent on the seriousness of students in learning.

The implementation of flipped classroom on vocational education is still much to invite pros and cons. On the one hand flipped classroom is very helpful for students because they can understand the concept first before the teacher conveys his theories (Sohrabi and Iraj, 2016). And on the other side, flipped classroom less desirable because every student has a different background, so not all students will do what instructed by the teacher well.

In the implementation on the ground, flipped classroom certainly still has various barriers that cause ineffectiveness of learning. These obstacles are a significant problem in the application of the flipped classroom in vocational education. However, in every obstacle, there must be a solution to overcome it.

The barriers that may arise in the implementation of flipped classroom one of them is the teacher can not control the activities of students outside of school hours, and teacher also does not know how long time students used to study at home (Thai, De Wever and Valcke, 2017). The guardian is the student who can monitor what the students do while they are at home. So to overcome these obstacles teachers need to coordinate with guardians to support the

implementation of this flipped classroom by supervising students to learn well.

Although the concept of the flipped classroom is elementary, in the implementation required careful preparation. To be ready to carry out the learning takes time and effort from both parties namely teachers and students. Besides, the flipped classroom needs new skills from the teacher, although this process can be alleviated by introducing the model slowly (Chilingaryan and Zvereva, 2017).

Implementation of flipped classroom as a learning strategy will encourage students to prepare for previous learning activities and use class time to discuss, ask questions and learn more about the curriculum. And the typical barrier is that few students actively participate in the classroom discussion forum (Ohtake *et al.*, 2018). In this case, required stimulus from the teacher to his students such as giving questions about the material that has been studied by previous students. Another obstacle is that because the flipped classroom is a new teaching approach, the results of the teaching are not maximized and have not reached the level of functional effectiveness (Gilboy, Heinerichs and Pazzaglia, 2015). With such barriers, it is necessary to socialize this method to form a synergy between teachers, students, and parents so that they can collaborate in the implementation of the flipped classroom method.

CONCLUSION

Flipped Classroom is the opposite of traditional learning, which is usually done in class in the traditional learning model to be done at home, and homework in this model becomes implemented in the classroom. In the flipped classroom, students learn the material first at home either through learning videos, discussing with friends online, summarizing material, making inquiries or reading sources through the internet, books, and journals. Despite having many advantages, flipped classroom requires proper preparation for learning activities to run with the maximum.

In vocational education, the use of ICT, learning material more exciting and interesting that can improve student learning process. On the one hand, the flipped classroom is conducive for students because they can understand the concept first before the teacher conveys his theories. And on the other side flipped classroom less desirable because every student has a different background.

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