

Flipped Classroom as a Millennial Teaching Model

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Abstract – This study is a literature review. The flipped classroom is the latest pedagogical model that has the potential to change the current traditional way of teaching. Flipped classroom emphasizes on learning activities that promote critical thinking and motivation among the students with the assistance of technology. The flipped classroom allows educators to move from ‘the sage on the stage’ to ‘the guide on the side. The basic and simplest form of flipped classroom is students are expected to watch digital resources prior to class. The students are then required to come prepared for class and perform hands-on activities that are related to the digital resources. The digital resources can be in any form such as video, audio or the internet. This allows teachers to spend more time with their students to carry out in class activities and allow immediate response to students’ needs. Student feedback on this pedagogy was generally very positive with many respondents considering it effective and helpful for learning. One of the biggest advantages mentioned by students is that they had the option to watch each video lecture as many times as required to be prepared for class.

Keywords: Flipped Classroom, Active Learning, Millennial Teaching Model

I. Introduction

This learning is implemented in the 21st century, demanding learner-centered learning. The goal that you want to achieve is not just learning outcomes, but in the learning process experienced by learners. It is certainly not an easy challenge for a learner, they will find many difficulties in the learning process. One of the difficulties often experienced by learners in the learning process especially in the learning of physics is the difficulty in the completion of homework given by the teacher. Another problem that can be experienced by learners in the learning process is to understand and respond to the material provided by the teacher. Therefore, the teacher needs to choose the right method to use in the learning process.

The preferred method should be able to increase the learning interest and independence of learners, so that

the learning process is meaningful and student learning outcomes can be achieved optimally. Regulation ministry of education No. 65 Year 2013 states that the learning process in each unit of primary and secondary education is interactive, inspirational, fun, challenging, and motivating learners to actively participate, as well as providing Ample space for initiative, creativity, and independence in accordance with the talents, interests, and physical development, as well as the psychological learners. Based on the explanation of the Regulation ministry of education, you can know that in the learning process, learners have a very important role, so that teachers should be able to design learning physics that performed at school tends to be done with lectures and discussions. The activities of the students are more on listening and recording teacher explanations. In addition, the

media used by the teacher is only a package book, so learners feel uninterested in physics learning. Therefore, a learning method is required that can attract students' attention and be able to overcome the difficulties experienced by learners. One of the methods that can be applied is the flipped classroom method.

Through flipped classroom methods, learn the theory yourself and in the learning class by applying the previously learned theories [1]. Learners study material at home first before the material is explained and in a student class with the teacher solves the problem students find when learning at home learning by using flipped methods. Classroom involves individual learners' active participation to dive into lesson materials outside of the classroom with an unlimited period of time before lessons in the class begin, helping learners to be more active, and more self-reliant. In the learning process and the time in the classroom is used to solve problems that learners find in home study [2] [3].

"Flipping" the classroom employs easy-to-use, readily accessible technology in order to free class time from lecture. This allows for an expanded range of learning activities during class time. Using class time for active learning versus lecture provides opportunities for greater teacher-to-student mentoring, peer-to-peer collaboration and cross-disciplinary engagement. This review of literature addresses the challenges of engaging today's students in lecture based classrooms and presents an argument for application of the "flipped classroom" model by educators in the disciplines of family and consumer sciences. A sense of urgency to adapt to Millennial learning preferences is heightened as educators increasingly struggle to capture the attention of today's students. Unlike previous generations, Millennials reared on rapidly evolving technologies demonstrate decreased tolerance for lecture-style dissemination of course information.

Incorporation of active learning strategies into the classroom is critical in order to reach Millennial students. Millennial students, referred to as "digital natives" [4], have been exposed to information technology from a very young age. Millennials'

access to technology, information, and digital media is greater than that of any prior generation.

II. Method of Research

This research is a research study of literature by studying some journals related to flipped classroom. The results of these literary studies will be used to review flipped classroom model learning steps.

III. Research Results and Discussion

The Flipped Classroom

Active learning pedagogies continue to evolve, and new methods of delivering course material are being developed. Assimilating active learning can be as simple as integrating in-class activities alongside traditional lecture. Yet educators in elementary through post-secondary education are finding innovative ways to restructure the classroom in order to focus attention on the learner [5]. Instructors adopting the flipped classroom model assign the class lecture or instructional content as homework. In preparation for class, students are required to view the lecture. According to Tucker [6], students utilize the time in class to work through problems, advance concepts, and engage in collaborative learning.

The flipped classroom method as an alternative to the current traditional teaching method by using technologies. Rapid technology has played an important role in the educational world. The use of technology in teaching and learning facilitates in increasing students' understanding toward critical and creative thinking, if used systematically.

Table I. The Flipped Classroom Stages

Stage	Activity
I	Before the study began, students were asked to study independently at home about the material for the next meeting, by watching the teacher's own learning videos or learning videos from other people's uploads.
II	In classroom learning, learners are divided into groups
III	Teachers give quizzes or tests that correspond to the materials learned in the learning videos that the teacher has provided
IV	Teachers appoint one of the learners to answer the quiz that the teacher has given
V	Teachers asked other students for feedback on the answer to convince that all learners are involved in ongoing activities. However, if the learner had difficulty with answers or answers given as inappropriate, improper, or silent, then the teacher asked other questions that the answer was a guide to completion of the answer.
VI	Teachers appoint one of the different learners with new questions to see if learning has been thoroughly conveyed and understood by all learners

A flipped, or inverted, classroom model could be adapted easily to multiple disciplines such as textile design, apparel design and construction, interior design, and nutrition. Of particular relevance are courses in which a lecture is primarily based on disseminating information and learning occurs when students apply these instructions to complete a task or an assignment. The flipped classroom model suggests the use of a variety of technologies in preparing and posting lessons for students' access prior to class.

Flipping the classroom allows for a range of teaching methodologies to be employed such as videotaping the instructor while lecturing, creating videos with voiceover and screen-capture software, instructions accompanied by visual aids, utilizing videos found online from sources such as YouTube and TeacherTube, and integrating discipline-specific websites of videos available through professional organizations and companies [7]. This allows instructors to improve communication and connection with students possessing a broad range of abilities.

With a traditional lecture format, teachers might not be aware of student progress until after testing [8]. A flipped classroom allows teachers greater insight into students' grasp of information and learning as a result of increased student/teacher interaction. The time gained by removing the lecture portion from class allows for more one-on-one personal engagement between the teacher and students. Furthermore, a flipped classroom allows students who may be hesitant to ask questions in the middle of a lecture to seek assistance from the teacher during their individual feedback sessions. Students also have the opportunity to "replay" the lectures several times before formulating their questions.

Challenges with the flipped classroom model include adapting traditional lectures to alternative media in order to post content online. Other challenges teachers face include making changes to the online lectures. The flexibility required to make adjustments to course content may be dependent on the technology originally used to create the lecture. Complexity of making changes could vary between re-recording an entire video lecture or could be as simple as adding an additional slide to a PowerPoint presentation. As technology used for presenting information gets smarter, faster, better, and cheaper, educators will be forced to learn and access more of these tools [9]

The flipped classrooms, as well as active learning, require students to assume more responsibility for their individual learning experience. Teachers must include clear expectations of self direction and motivation within their syllabus or framework of the course. For this reason, verification, through application of information in a projectbased scenario, may be one indication that students have performed the task of viewing the lecture prior to entering the classroom.

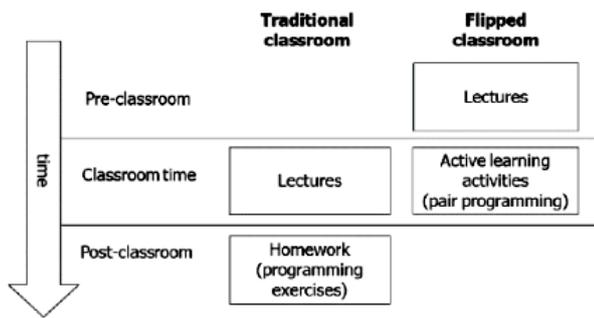


Figure 1. The tradition classroom and flipped classroom [8]

Flipped classroom also provides opportunity for excellent students to learn in a group. Group activity in a flipped classroom could increase interaction between students and teacher, and between students themselves through learning activities such as inquiry-based learning, problem-based learning and project based learning [10].

The Millennial Student's

Millennial students, referred to as "digital natives" [4], have been exposed to information technology from a very young age. Millennials' access to technology, information, and digital media is greater than that of any prior generation. According to McMahon and Pospisil [11], characteristics of Millennial students include 24/7 information connectedness, a preference for environments that support multitasking, and gravitation toward group activity and appreciation of the social aspects of learning. This generation is distinguished by their access to technological and collaborative experiences. Millennial students drive change in learning environments around the world.

The technology, with which digital natives matured, has induced today's students to "think and process information fundamentally differently from their predecessors" [4]. Although educators bemoan this generations' inability to focus. Millennial expert pointed out that "it is not our students' attention capabilities that have changed, but rather their tolerance and needs". This characteristic actually validates the urgency to adopt alternative methods of instruction, and many teachers are incorporating

active learning strategies as a better way to engage these students.

Technology Used in Flipped Classroom

Technology is a catalyst in the teaching and learning processes. Technology that is used accurately and systematically would facilitate the teachers in imparting the knowledge, and the students in their learning [12]. Previous studies on flipped classroom in school also found that it is not an excluded from the use of technology.

Digital Learning Media is also known as Multimedia Learning. The term multimedia contains different understandings for different people. For some people multimedia is in front of the computer terminal and enjoy a presentation consisting of text on the screen, on-screen graphics or animations on the screen and sound out of the loudspeakers. As for others multimedia means "live" presentation where a group of people sit in a space while watching the image that appears on screen while listening to music through the loudspeakers. Watching TV and video also includes multimedia, presentations using PowerPoint and explaining slides also include multimedia. Even teachers write and draw with lime while explaining also including multimedia though not using high technology. The most basic form of multimedia is a handbook containing writings and drawings [13].

In traditional learning, learning messages are presented in verbal form (spoken and written). But in line with the advancement of Multimedia learning information technology into something necessary, especially in electronic learning (e-Learning), since e-learning is self-learning and students can easily move from one screen to another if the learning is not interesting [14] [15]. In the context of multimedia messaging There are three different views that are reviewed from the introductory media, representation format, and sensor modalities. Based on the media used to present the message, the main concern lies in the medium that is the equipment used to present the material, for example: computer screen, loudspeaker, projector, video, DVD and other equipment. This view is the most appropriate view in terms of the

meaning of the words, because this view focuses on the use of media. Here the attention is aimed at the sophistication of equipment than the study. This view is a more advanced view of technology-centered. The next view is based on the format of representation used. Here the attention is aimed at how the material is presented, namely through words and images.

For example, the "computer-based multimedia" material is verbally represented on the screen can be text on display and narrative and pictorial can be a form of static images and animations. In "Lecture-based multimedia" The material can be presented verbally as speech and pictorial in the form of a projected image or video. In the Handbook (textbook) The material can be presented in the form of printed text and static images. This view can be said to be the view of "learner-centered" because it is assumed that learners are able to use various coding systems for the presentation of knowledge, namely the verbal presentation and pictorial. This view is consistent with the cognitive theory of learning which assumes that humans have different channels in the processing of verbal knowledge and pictorial knowledge. The most recent view is based on sensory modality, this view is a sense of the sensory reception of learners to receive information/knowledge. This view corresponds to the dual code theory of Paivio, and this view includes the View learner centered [2].

Media is one of the defining factors of learning success. Through the media the learning process can be more interesting and enjoyable [16]. By the proper use of appropriate media, students will be able to more easily understand the material being taught. The learning process requires the media to be able to take place as expected. Games that contain learning materials that are packed with great fun will be very helpful, because students seem to feel like learning. Another important aspect of media use is that it helps clarify learning messages. In learning "Flipped Classroom" the most suitable media is a video, podcast, but if the teacher is still not ready with the production of the video itself, can obtain material that is on the Internet. But it is advisable that the most appropriate video footage of the teaching teacher is

doing, with the learner feeling as if the teaching was not done outside of school, but was in the middle.

IV. Conclusion

Active learning activities have proven to be highly effective in cultivating millennials' engagement. Active and learning however require technological support; and flipped classroom is suggested to be one of the pedagogical approaches to complement the whole process of learning. Flipped classroom is the latest pedagogical method that has the potential to change the current traditional way of teaching. Flipped classroom emphasizes on learning activities that promote critical thinking and motivation among the students with the assistance of technology. Implementation of the flipped classroom method could change the direction of the current traditional class and shape the students' learning.

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