

The Flipped Classroom: A Twirl on Pedagogy

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Abstract:-The traditional classroom has applied the “I Achieve”, “You Achieve”, “We Achieve” as an approach for teaching and learning for many years. The flipped classroom turns around the table. The teacher utilizes “You Achieve”, “We Achieve”, “I Achieve” as a substitute. Flipped classroom “upturned” classroom where homework, investigation and further readings occurred in the classroom. In addition, students involved in preliminary class activities at home such as watching lesson videos, PowerPoint and summary readings. After this, students come to class not as students but as “teachers” ready to start solving problems, probing solutions and appraising text. However, the flipped classroom is still very new in the teaching profession as a strategy for teaching. Although, it has been in use from primary school to the higher institution in many nations of the world. As with most strategies, the flipped classroom has numerous ways of application in schools. This paper is a position paper on the flipped classroom. It studies and illustrates the implementation and perception of the flipped classroom. Furthermore, the paper provides various methods of implementation and tools applicable in a flipped classroom. Also, the explanation was given on the merits and demerits of the flipped classroom as applicable to all teaching techniques.

Keywords: Flipped classroom; teaching techniques; pedagogy

I. INTRODUCTION

Pedagogy is broadly referring to the theory and practice of education, and how this inspires the growth of learners. Pedagogy, as an academic discipline, is the study of how skills and knowledge are interchanged in an educational context, and it views the interactions that take place during learning. Variations in pedagogies reflect the differences in social, political, cultural contexts from which they emanate (Li, 2012). According to the Merriam Webster Dictionary, pedagogy is the act, science, or profession of teaching. Pedagogy theories progressively identify the student as an agent while the teacher as a facilitator of teaching and learning. Teaching and learning in conventional institutions usually take place in the classroom. Learning nowadays cannot be effective without innovative technology. Innovative technology is a very essential tool in education for the benefit of every individual and society at large. No country can proud to be educationally advanced without encouraging technology in her educational activities in the classroom.

The traditional classroom has applied the “I Achieve”, “You Achieve”, “We Achieve” as an approach for teaching and learning for many years. The flipped classroom turns around the table. The teacher utilizes “You Achieve”, “We Achieve”, “I Achieve” as a substitute. Flipped classroom “upturned” classroom where homework, investigation and further readings occurred in the classroom. At home, students

involved in preliminary class activities such as watching lesson videos, PowerPoint and summary readings. After this, students come to class not as students but as “teachers” ready to start solving problems, probing solutions and appraising text. The flipped classroom is still very new in the teaching profession as a strategy for teaching. As with most strategies, the flipped classroom has numerous ways of application in the classroom with the aid of appropriate technology.

The theoretical foundations which justify the flipped classroom develop from a body of literature on student-centred learning, from the theory of Piaget, Elkind and Tenzer (1967) and Vygotsky (1978). The collaborative and constructivism learning aspect of the flipped classroom stemmed from Piaget’s theory of cognitive conflict while cooperative learning develops from Vygotsky’s zone of development proximity. The connection between these learning theories and its historical development resulted in a Venn-diagram that shows the interaction between these groups of learning theories (Fig.1). Thus, it is essential to observe that although learning styles serve as a confirmation for flipping classroom actions, they do not essentially give structure for how the class activities should be configured. This is the reason for none appearance of learning styles in figure 1.

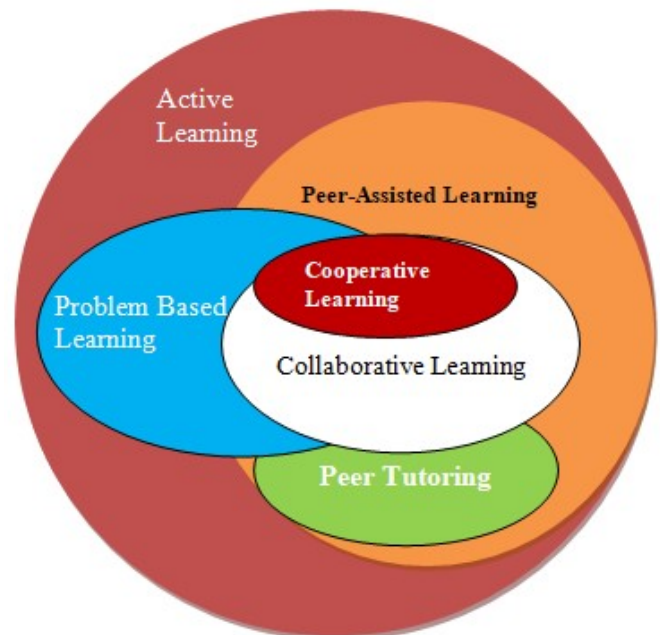


Figure 1: Students-centred learning theories and methods Venn diagram
Adopted from: Makinde, (2017)

II. WHY FLIPPING THE CLASSROOM?

The term flip comes from the idea of exchanging or turnaround homework for classwork and vice versa. When students were given homework in the intention for them to work on it at home, parents of some of them are educated and can assist them with the work. But on the other hand, parents of some may not be knowledgeable in the content and cannot assist them with their homework. Hence, according to Ash (2012), students are able to come to class with the content and receive necessary guidance from the teacher during classroom interactions. The flipped classroom provides students with necessary in-class support to increase their knowledge and skills and gives more time for hands-on activities. Makinde and Yusuf (2017) opine that the flipped classroom encourages “students to take learning as their responsibility since they learn at will and with a lot of motivations from the classroom”. Students also have access to the content at home through digital video disk (DVD) player with television/computer or with access to the internet. If one is absent from class due to co-curricular activities or ill-health, it is easily catch up through offline or online activities provided in the flipped classroom.

III. CLASSROOM FLIPPING: THE REVIEW

Classroom flipping cannot totally displace lecture method because not all classrooms are always flipped. The instructor or teacher is still required in the flipped classroom. The planning and all other preparation for every class still need to be done by the teacher. The flipped classroom does not require sophisticated technology before it can be applied. Based on the above, Ash (2012) proposes 5 hints for flipping the classroom:

1. Do not get hooked up on creating your own videos;
2. Plan your class to know what parts to "Flip" and when;
3. If possible, be in collaboration to create videos;
4. Address the issue of early accessibility; and
5. Create a technique to engage students with videos.

The usual practice among the teachers using the flipped classroom is to engage the students with the recorded videos of their lectures. They use various methods in engaging the learners with the videos. Teachers notice that the use of 5-15 minutes videos is highly ideal in the flipped classroom. Many resources can be found on the internet for content information in various areas of the subject matter. Some websites provide tutorials, interfaces and premade videos on the intended topics. Researches show that most successful flipped classrooms use videos got from a variety of links. By obtaining videos from different sources the students attest that it is more interesting, engaged and found the information updating. Videos from a single teacher look sublimary and boresome. Recording boresome lectures for students to watch on their own negate the main objective of a flipped classroom. Voice-over PowerPoints are also sublimary at times and

tiresome. Students will lose interest and are likely not going to watch them with full attention (Makinde, 2017).

According to Brunsell and Horejsi (2013), one technique of making the videos is the use of simple “one take” videos. “To produce these videos, an inexpensive digital camera, camera stand (tripod), white panel board, whiteboard markers and whiteboard eraser or cleaner are required. Teachers adumbrate presentations on a series of small whiteboards. Then, record themselves talking through the series of whiteboards. The importance of this method is that videos can be quickly created; and having the teacher on camera, students may connect with both the content and the teacher.” Alternatively, teachers can sketch their presentation in terms of scripts writing and voice over by having only the script on camera. This prevents unnecessary focus on teachers’ posture and dressing which could distract students’ attention since they connect with only the contents and voice of the teacher, not virtual appearance.

IV. CLASSROOM FLIPPING: THE COST

Cost and school expenditures should not be a barrier for utilizing the flipped classroom by the teachers. The technology readily available and accessible to both students and the teacher should be the first thing to consider when incorporating the flipped classroom in a school. If a teacher wants students to watch a video through the internet for homework, the technology must be available and accessible to students. But it very surprising to discover that many students were not internet compliant, some were not having a compatible phone, laptop or a computer at home let alone have access to the internet. Some Teachers in the institution caters for this by generating means to secure access to these students while others change their medium away from the computer. Whether it is watching videos through DVD or complete reading, the teacher cannot just expect the task to be completed at home. The student needs to be engaged in classroom activities to assure its completion through proper evaluation. Teachers are even getting more creative with this side of the flipped classroom. Schmidt and Ralph (2016) affirm that students complete a worksheet or answer questions as they read or watch the video; write questions for further information they need; define words they are not used to is useful in moving to the in-class portion of the lesson.

In some instances, the flipped classroom proffers solution to the cost of technology issues. “In an effort to tackle the problem of poor performance in senior secondary school mathematics in Nigeria, researchers enlist internet hosting and YouTube as an effort to boost students’ grades with the flipped classroom approach (Makinde, 2017)”. Majority of the schools visited did not have money for internet facilities and were utilizing outdated material. The research uses offline store videos borne to compact disk (CD)/DVD to accompany materials created and implemented for the research. In collaboration with the mathematics teachers, videos are created along with the activities on worksheets and projects that are used in the class during lessons. Since expensive

teaching materials are not affordable, CDs were given to the students to watch at home with given assignments” (Makinde, 2017). This encourages learners to participate fully in the flipped classroom because the technology applied is affordable to all.

V. THE FLIPPED CLASSROOM: DEMERITS AND MERITS

The flipped classroom should not just be a classroom that all teachers rush to apply in their classes. It is necessary that teachers approach the flipped classroom with caution, skill and knowledge. According to Neilsen (2012), the followings are enlisted as the reasons to implement the flipped classroom with discretion:

1. None availability and accessibility of technology at home for many students;
2. Flipping instruction might end up just providing more time to do the same type of memorization for examination only that not good for proper learning;
3. If we really want good transformation in education, one thing we must do is to desist from grouping students by form or age, which the flipped classroom is ideally good for. True flipping should include a careful restructuring of the learning environment, but this is often neglected;
4. A reasonable number of parents and educators who believe compulsory homework inessentially rip off children of their after-school time because flipped homework is still homework; and
5. The flipped classroom is built on a traditional model of teaching and learning: I lecture, you assimilate.

In spite of that, Millard (2012) gives 5 reasons the flipped classroom works:

1. It focuses on classroom discussion;
2. It is more of student activities (engagement);
3. Allows personalized student guidance;
4. Encourages faculty freedom; and
5. Invigorates team-based skills.

The flipped network (2012) observation of teachers incorporating the flipped classroom at the junior high and secondary school revealed that 99% of the teachers will continue to use it. 67% of the teachers affirm signs of progress in students’ performance and 80% observe improvements in students’ engagement. The result also illustrates that 71% of the teachers give 50% or more use online instruction. 46% of the subject flipped was science, mathematics was 32% and ELA was only 12%. Conclusively, 95% of the study consists of secondary school teachers.

VI. CLASSROOM FLIPPING: THE SURVEY

Students of the Faculty of Education, Al-Hikmah University, Ilorin, Nigeria were surveyed regarding the flipped classroom. 167 students responded to the survey. Of the 167 students, 67

were 300 level students. 74 students were at 400 level and 26 students were 200 level students. This is illustrated in figure 2 below. All students had no experience of the flipped classroom before the introduction of it by the lecturer.

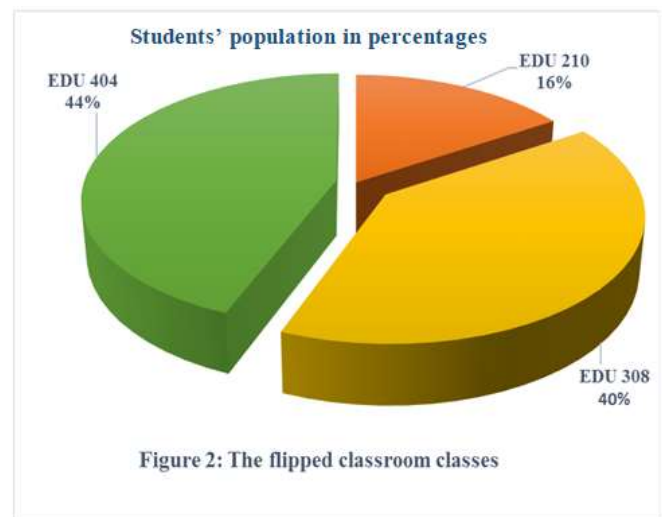


Figure 2: The flipped classroom classes

The 200level class was taught EDU 210 (Subject methods (Science)) with the flipped classroom. The 300 and 400 level classes were also taught EDU 308 (ICT in Education I) and EDU 404 (ICT in Education II) respectively. The two classes comprise of Art & Social Sciences Education, Educational Management & Counselling and Science Education students.

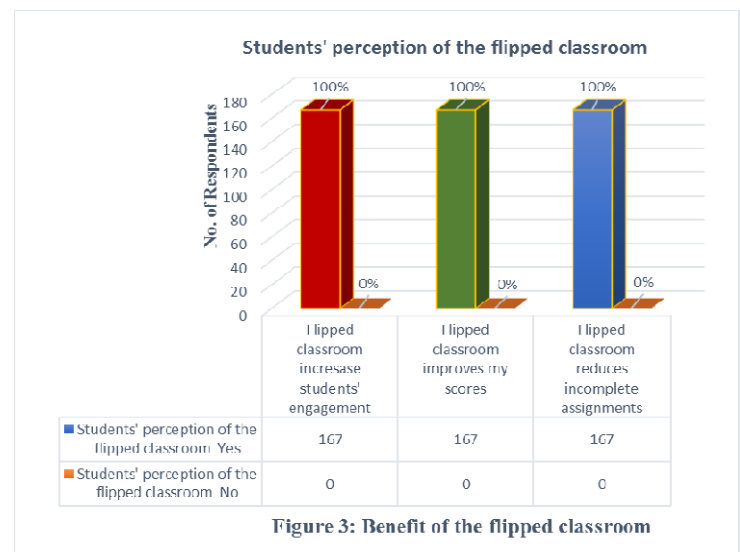


Figure 3: Benefit of the flipped classroom

The three flipped classrooms are subjected to different strategies and techniques of using a flipped classroom. As shown in figure 3, all the students in the flipped classroom reported that the flipped classroom increased their engagement, improved their scores, and promote assignments completed on time. The next paragraphs describe the flipped classroom approach utilized.

For the homework, the lecturer incorporates fully online resources for 300 and 400 level students. He utilizes

“classroom” on Google applications(apps) to create a flipped classroom. Auto-generated code for the classroom then released to the students to join the class if not invited through their email addresses. Students are admeasured videos to watch, collaborated with peers and teacher, posted printed materials and quizzes through Google Forms. The lecturer is referred to as a teacher on the site. The lecturer manages the information assigned to the students. The students watch the admeasured videos, and take quizzes, submit and “turn in” or “hand in” after completion. The lecturer accesses the results instantly on the website as commanded by the system. This gives the lecturer firsthand information on what the students have known and what information requires further explanation. If the lecturer leaves the feedback on the quizzes, the students can view corrected options or corrections to the assignments given to them by the lecturer and come to the class with their observations or react through the flipped classroom on the problematic issues. Lecturer then takes note of the information for further explanation in class when the physical class interaction comes up. The students arrive at class with intending questions from the videos watched or printed materials read and the lecturer immediately starts solving the problems with the students and answering their questions. The lecturer observes that the majority of the students are actively engaged in class when using the flipped classroom.

Furthermore, the students argue that the flipped classroom approach to teaching provides them with the opportunity to get better support in working out their problems. Even, students do not realize they do not understand a concept until they start analyzing and solving problems. Students that have friends and relatives at home that can assist them when they struggle with the assignment may not have problem in turning in their assignment but the majority of the students do not have anyone at home or in the hostel that has enough knowledge in the content area of the subject matter to assist them. Thus, with the flipped classroom approach students arrive at the class and start solving questions while the lecturer monitors their progress as well as serving as guidance. As a result, the students are less likely to get frustrated and give up on their learning when the lecturer is there to further explain the information and processes.

The lecturer uses both offline and online materials in his flipped classroom. He regularly asks the students to read the printed course materials for homework. Whenever the course material on reading is assigned, the lecturer always requires the students to complete a task while reading. These activities could be on drawing, open-ended questions, impromptu quizzes, etc. The lecturer often asks the students to write down questions on the areas they need clarifications. He then instructs them to submit in any of the following ways:

1. Hand in on arrival to the class at the time of physical class interactions;
2. Email them to him the night before; and

3. Write them in the flipped classroom “stream” the night before.

The lecturer then uses these questions as a guide in his class and makes sure the students have a full understanding of the material.

VII. CONCLUSION

The flipped classroom requires numerous activities and the lack of adequate access to require technology by students make it uninteresting for lecturers to use. As the access to technology and data for internet browsing is available to support adequate learning and students’ engagement, many lecturers would be willing and encouraged to implement the flipped classroom. The flipped classroom can be used to enhance learning but not just to record boring class lectures and enforce it on students to watch on their own leisure time. If videos are to be used, it would be essential to inform the students the access to the videos. Some schools prohibit watching of YouTube by the students, therefore, if you plan on using YouTube to house videos for students to watch, this would not be possible in the school premises unless you get the ban lifted. Furthermore, short minutes videos are the key to successful communication of the course material if utilized adequately. Short and concise videos can be used to cover the material. This can be segmented if possible, to release it in piecemeal to the students. Students also indicate that watching videos of the same person whether their teacher or someone else gets boring.

Do not trouble yourself to produce all the material alone. The internet has a vast assorted quantity of resources and materials for lecturers to incorporate into their lessons. Not only does this lessen the workload for the lecturer but also gives room for varieties for students. However, creating your own online resources often needs more time and technical skills than you possess. Time is a precious resource that must be managed properly by the teacher. These online resources take the place of hours that is required to create this material. There is a wide range of resources available not limited to online readings but also include videos on YouTube and many interactive websites like Khan Academy. The Khan Academy at khanacademy.com is an online resource that has online video lessons but contains interactive activities and quizzes and is completely free for all to use. Sophia.org and Moodle.org are other free websites that can be accessed for teaching and learning processes.

The more attractive and interactive the homework the more successful the flipped classroom. Students would be eager to complete their homework on time when they are actively engaged. Diverseness in activities, contents and videos would engage students more. As the awareness for the flipped classroom progresses, more resources and research would need to be conducted.

VIII. SUGGESTIONS

The flipped classroom still needs a lot of awareness in the field of education, especially among the developing nations. To catch up with the latest in the education and to be able to give the learners the best, the flipped classroom should be encouraged among educators and schools from the elementary schools to tertiary institutions. With this, teaching and learning would be more interesting, encouraging and to improve both academic performance and retention of the learners.

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