Significance of Preparedness in Flipped Classroom
Enhancement initiatives for secondary education

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Flipped classroom is the latest pedagogy that has grown across multi-discipline and age levels which effectiveness has been proven empirically. The flipped classroom approach allows the students to review the topics given prior to learning them in the classroom and apply the knowledge gained practically via in-class activities. Therefore, students are given more opportunities to apply the knowledge they have learned into the real life situation in collaborative learning environment. Furthermore, flipped classroom shows most impactful effects on increasing learning interactions, improving students’ achievement and boosting critical thinking. Studies have indicated that flipped classroom could also stimulate students’ interest and could even improve their attitudes towards school. Students are able to receive a personalized education to suit their learning style while syllabus could be covered before time. However, the key feature of successful criteria in flipped classroom is students’ preparedness. Very few of the reviewed articles emphasizes on this critical aspect. The need for the students to be prepared prior to the teaching and learning process plays an important role to make this approach successful and meaningful. This is because if the students come to the class unprepared, they will give a blank look and will not get involved in the classroom. The school is a place to improve working improvement and to produce students with maximum academic growth. While the flipped classroom approach has been seen successful from the perspectives of both students and teachers, the authors notice that, there is still room for improvement in some areas. The authors choose to redesign the approach by factoring in the preparedness aspect. This paper summarizes the importance of preparedness based on limited past researches and also presents some possible ways of redesigning the prior learning process in flipped classroom for secondary education.

Keywords: Flipped classroom; Preparedness; Secondary education; Critical thinking

1 INTRODUCTION

Flipped classroom is a pedagogical method that has started gaining a place and attention in the world of education. Beginning in the year 2000, the flipped classroom was first introduced by after realizing that the traditional teaching was nothing more than copying lectures notes.

This gave rise to one-way interactions and students only had their understanding tested through assessment and examinations.

As a result, lecturers could not rectify the students’ understanding right from the beginning of the lesson. The application of the flipped classroom enables lecturer to identify students’ conceptual misunderstanding early, via two-way lecturer-students interactions during the lectures.
The style of teaching which is different from students’ learning style also tends to contribute to students’ misunderstanding and this could eventually lead them to frustrations with the learning experience especially when it involves with difficult subjects. Taking the problem as a starting point, has applied a concept similar with the flipped classroom, termed inverted classroom. realized that the incorporation of the students’ learning style and teachers’ learning styles improved the students’ performance and reduced the number of drop-outs. From the cognitive aspects, previous studies also found the flipped classroom capable of improving students’ performance and thinking skills. In addition, the flipped classroom also helps in terms of positive behavioral change, such as increasing students’ motivation and reducing truancy. The use of technology in the flipped classroom also helps students master their learning from various aspects.

Studies related to the flipped classroom at the school level began to be implemented widely after two school teachers in the United States implemented the method on a group of high school students learning chemistry. It was to be the starting point, after which there were other researchers who applied the flipped classroom approach for secondary school students. The findings of the flipped classroom studies in secondary schools also showed a positive impact on students’ performance and the curriculum development. Generally the flipped classroom has a positive impact on students’ performance, both at the tertiary and the school levels.

2 THE KEY FEATURE IN FLIPPED CLASSROOM

Although there have been many studies regarding the flipped classroom in various dimensions and disciplines, those which emphasize on students’ preparedness for the flipped classroom are still lacking. The authors see that the key feature in the flipped classroom is preparedness because if students are not prepared in the first phase of the flipped classroom learning process, flipped classroom learning objectives will not be achieved. Taking into account some aspects to fulfill learning requirements of the student, especially those in the secondary schools, the authors propose preparedness as one of the initiatives to be made available in the flipped classroom learning process. Preparedness refers to the stage of readiness of the students in the flipped classroom approach.

The original flipped classroom learning process comprises two learning phases. The first learning phase is a self-paced learning, where teachers provide assignments for students to read about what will be studied in the next lesson. Hence, during the flipped classroom second phase session, the teachers could allocate more time and provide more opportunities for their students. Interactions between students and teachers could be improved. Therefore, the teachers would find it easier to identify any students’ misunderstanding early.

The students also learn from the teachers and their peers who are more competent to promote the development of knowledge and soft skills of the students. There are previous studies which have made modifications on the flipped classroom as shown in Figure 1.

![Figure 1: Teaching structure](image-url)

According to Figure 1, the flipped classroom learning process is divided into two phases which are learning in the classroom and learning outside the classroom. Learning in the classroom means self-paced learning while learning outside the classroom consists of hands-on learning. However, the teaching structure shown in Figure 1 is feasible at the tertiary level. has developed the activities as portrayed in the dashed box. In the context of this study, the authors see the potentials if the steps in the dashed box could be applied in various levels, particularly at the school level. The authors feel that there is some looseness in Figure 1, especially in the dashed box, namely, what if the students do not make the task as directed by the teachers. If the students are not ready, they will come to class unprepared with a blank look. This situation will potentially become worse as the students are not able to fully absorb the lesson which will take place. It is to cater for this need that, the author has drawn up a guideline in the flipped classroom learning.
process, as depicted in Figure 2. These guideline is strongly suggested by 27,28 that the teacher or instructor must also develop activities and/or pretest to ensure that students are prepared for class.

In reference to Figure 2, the original version of flipped classroom consists of two phases, namely Phase 1 (out of class) and Phase 2 (in the classroom) as shown in Figure 1. As the author sees the importance for preparedness in the flipped classroom to be emphasized, the author has redesigned a phase marked in the dashed box in between Phase 1 and Phase 2 in Figure 2. Although there are researchers 21,29 who are concerned about the preparedness such with emphasis on online learning using Intelligent Tutoring System as one of the initiatives to ensure that each student is interactive with what has been learnt, the implementation of such an approach is limited only to the university students. At the school level, only researchers 22 have made it compulsory for each student to submit questions before the class starts to ensure that they are ready for the assignment to be given. It is obvious that, studies which emphasize on the preparedness aspect of the flipped classroom research are very limited. Findings in a research by 27-29 prove that students’ preparedness with regard to digital materials or assignment given prior to teaching and learning results in active learning, compared to students who are not prepared with the provided materials.

The authors see redesigning the flipped classroom approach as a measure that needs to be done so that students are more prepared for the assigned learning materials. Using the measures provided, it will assist teachers to ensure the success of the flipped classroom approach. The redesigned method provides teachers with the guidelines to implement the steps shown before going to Phase 2 in Figure 2. Based on Figure 2, for schools with adequate infrastructure facilities such as Internet and computer hardware, Option 1 in the redesigned phase does not pose a problem. However, for schools with problems in terms of infrastructure, they may opt for offline learning. For teachers who have the time and creativity, they may capitalize on this opportunity by giving written exercises such as quizzes and education games as proposed in Option 2. The simplest approach is Option 3, in which, the teachers require each student to ask questions and the discussion sessions are continued in the following phase as made by researchers 22.

Comparing Figure 1 with Figure 2, especially in the dashed boxes, the authors emphasize the preparedness aspect, without which, the objectives of the flipped classroom approach are hard to be achieved. This situation could occur not only at the school level but also at the tertiary level. In the context of this study, the authors chose an Option 1 to be applied outside the classroom as a self-pace learning.

3 CONCLUSION

Overall, flipped classroom has a positive impact on students’ achievement. However, when viewed in terms of infrastructure, it should be given a little touch to make it more feasible. The authors see the need for this issue to be highlighted with the redesigned approach with the introduction of preparedness aspect, especially in the secondary education. Secondary school students need to be kept motivated to make learning more interesting and meaningful. The proposal by the authors are also strongly suggested by 27-29 who also emphasized on the importance of students’ preparedness before the flipped classroom teaching and learning begins. Although the researcher suggested a preparedness phase in applying the flipped classroom, the use of online and offline technology also helps in improving students’ achievement 12,14,20,21,25,24,26,30. However, the survey data cannot be reported since the data collection process is still ongoing.
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REFERENCES


