Exploring Flipped Learning

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Pedagogical changes and adaptation of new models in teaching and learning should be considered as a great effort to a better nation. One of the most popular growing models in Malaysia is flipped learning. Flipped learning is widely used all over the world in teaching and learning of different fields of subjects. It promotes meaningful learning, more to student-centered rather than teacher-centered, and commonly aided with technological equipment such as pre-recorded videos, mobile apps or simply watching videos on YouTube before coming to the class. This article explores the characteristics of the flipped learning, the overview from the previous research, as well as teachers and students roles in implementing flipped learning. The advantages and disadvantages of flipped learning are also highlighted and discussed for further understanding of this model. Before it ends with a conclusion, the implications of teaching and learning are also discussed.

Introduction

The fast growing of technologies and communication systems makes the world become smaller as every part of the world is readily accessible using the Internet. Education has been affected as well. Everything seems to be so easy in producing and delivering information with the help of technologies. The Ministry of Education Malaysia has introduced the ICT based-learning called Globalized Online Learning (GOL) and highlighted in the Malaysia Education Blueprint for Higher Education (2015-2025) and mentioned in the 9th Shift section. In fulfilling the 21st century system of teaching and learning, Massive Online Open Courses (MOOCs), blended learning and digital technology has been integrated in our education system (Malaysia 2015). Flipped learning is one of the newest versions of technology-based learning. If blended learning cooperates the half-half of online and in class learning, flipped learning is slightly different. The foundation of flipped learning is in class activities that emphasize cooperative learning and problem solving as well as the knowledge retention. The article is meant to explore the basic foundation and the characteristics of flipped learning, the overview of flipped learning from the previous research, teachers' and students' roles in implementing flipped learning, the advantages and disadvantages of using flipped learning, the implications of using flipped learning in teaching and learning, and lastly the conclusion and some recommendations for future research.

Literature Review

Jonathan Bergmann and Aaron Sams introduced flipped learning in the year of 2007 when their students missed too many classes for basketball games, trainings and tournaments. Teachers had to repeat the important lessons for them as they missed the crucial contents. They figured out a better solution by recording the lectures using screen-casting software during spring 2007. They had a creative idea by recording instructions and use class time for meaningful activities such as questioning and answering session. Flipped learning has gained its popularity ever since (Sams and Begrmann 2013).

The main purpose of using flipped learning is to maximize the face-to-face time between teachers and students in the classroom. In the traditional classroom, many teachers used the classroom to do the lecture and not working with the students. However, Sams and Bergmann (2013) suggest that teachers should spend the face-to-face time with students by applying the higher level of Bloom's Taxonomy and the lower level of Bloom's Taxonomy should be pushed outside of the classroom. It seems a lot of responsibilities for teachers. However, flipped learning is not a one size fits all model. It can be used in many different situations. A lesson can also be flipped or not to be flipped depending on the necessity and the objectives of the lesson itself.

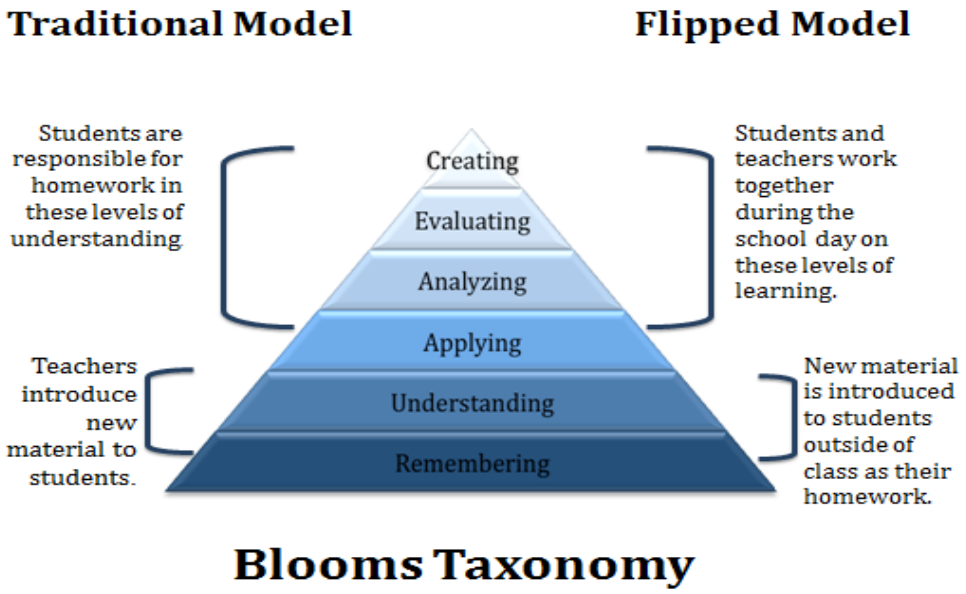

Figure 1.1: The Bloom's Taxonomy; Traditional Model vs Flipped Model

There are two important keys in flipped learning approach according to Howitt and Pegrum (2015). The first key is students' flexibility to move at their own pace as they work out of the class. They can also watch different videos that appropriate with their levels and interest. This could help with differentiation, personalization of learning as well as promotes student autonomy. The second one is, when students are well prepared before class, students are aware and ready for in class lessons. Class times are meant for discussion, collaborative inquiry, interaction and hands-on activities. Hence, the higher order skills can be engaged in class with the help of peers and teachers. As supported by Vygotsky (1978), meaningful learning takes place when students communicate actively with teachers and peers, engage actively in the learning process. In the other hand, teacher could put extra attention to those who are struggling and need for extra help in learning. It can be summarized that it is not only videos or materials that important, but it is how they support the overall learning approach (Tucker 2012).

The best way to describe flipped learning characteristics is by the F-L-I-P model (Hamdan, McKnight, McKnight & Arfstrom 2013). Figure 1.2 shows the four pillars of flipped learning model.

Figure 1.2: Pillars of Flipped Learning

The first pillar, Flexible Environment or F represents the variety of learning modes that can be implemented inside and outside the classroom. This allows students to learn on their own way and on their own pace. The second pillar, Learning Culture or L represents the learner-centered approach, where in class time is meant for exploring in depth of certain topics and creating rich learning opportunities. Thus, students involved in active knowledge construction and gained meaningful learning. This is contrast to the traditional teacher-centered where the teacher is the primary source of information. The third pillar is I, or Intentional Content. Flipped learning instructors or educators always think on how this model could help students to develop conceptual understanding and the procedural fluency. Instructors or educators determine what they want to teach and which materials should they use so that students can explore on their own. Instructors or educators should adopt student-centered approach, active learning strategies, depending on the subject matter and grade level. The last pillar is the Professional Educator or P. It represents the role of a professional educator. Educators must observe their students, give feedback, and assess their work. They must also be reflective in their practice, always improvise their instructions, accept criticism, and able to control chaos in their classrooms. Even though educators play less visibly roles in flipped classrooms, they remain the most important ingredient that enables flipped learning to happen. Chen et al. (2014) support that in flipped learning, educators play even more crucial role compared to the traditional classroom.

Teachers' Roles

Teachers might face some challenges in developing out of class and in class elements. In implementing flipped learning, teachers need to design the overall structure of learning, from the preparation up to the discussion or assessment. It should be done carefully to ensure that students would achieve the objective of the lesson.

Flipped learning is reasonably new. Challenges are normal when it comes to implementing in schools or higher institutions. Many educators teach more than one class with different level. They need extra time and efforts in redesigning the existing course accordingly to students' level. In preparing good quality videos or other materials, there are several issues need to be considered. For example, in preparing a video, Bergmann and Sams (2012) suggest that only one topic should be covered in one video and it should be less than 15 minutes. Ideally, between 5 to 10 minutes if possible. In certain cases, 3 to 5 minutes is good enough Bridgeman (2013). The idea is to make it short, and easy for the students to re-watch (Rosenberg 2013).

In preparing multimedia instructions, the best basic elements are suggested by Mayer (2009). Instructions should be clear, no unnecessary materials, no redundant captions, adding pictures with voice rather than written text and adopt personalized style. Preparing the pre-recording videos or any flipped learning materials are somehow not a time consuming (Bergmann and Sams 2012; Enfield 2013; McGivney-Burelle and Xue 2013).

The most important thing that teachers need to consider is what should happen in both class time and out of class time (Enfield 2013). Teachers should be the facilitators, guiding the students in learning possibilities, in line with progressive approaches like social constructivism. Hence, the meaningful learning could be obtained.

Students' Roles

In making sure the flipped learning is succeeded, students should take an important role too. The first thing students need to consider is a good connectivity, hardware and software to watch videos prepared by the teachers (Milman 2013; Rosenberg 2013, Sams 2013). Davis et al (2013) says it is important for students to have some trainings on the rationale of flipped learning as students are became more responsible on their own learning. They might need some guidelines on how to watch the videos or other materials effectively. Bergmann and Sams (2013) advise a few tips for teachers; (1) ask the students to turn off other media channels, (2) take notes, and (3) ask interesting questions. Those tips to ensure students get the gist in the videos they are watching.

Advantages

There are benefits and downsides in every initiative. So does the flipped learning. However, if flipped learning is used correctly, the benefits are enormous. In this 21st century students are well equipped with gadgets. It is rarely situation to see a student without a gadget nowadays (Defour 2013). They grow up with the Internet and social media. Bergmann and Sams (2012) say that students were being excited to flipped learning only for the first few weeks, more than that; they reacted like nothing is new. Hence, they concluded that students could easily accept the new instructional shift in the classroom.

Another benefit of flipped learning is the face-to-face time spent with teachers and peers. Flipped learning offers more time for feedback between teachers and students and better interactions between teachers and students (Goodwin and Miller 2013). Bergman (2011) adds that by using flipped learning, he could talk to every student, every day like he has never done before in his previous 20 years of teaching.

The pretty obvious advantage is, students can pause or replay the video anytime they want, according to their pace. If they absent, they still receive the same instructions as their peers did. Compared to the in class lecture, students cannot stop the teachers or ask them to repeat the necessary information. Let alone if the student is shy. He or she will just keep quiet for the rest of the class (Springen 2013). It is a bonus for teachers too since teachers do not have to repeat themselves in class.

Lastly, science has proven that students have merely 10 minutes of introduction of a new topic before they lose interest (Goodwin and Miller 2013). This is why pre-recording video is limited to only 5 to 10 minutes. Contrast to the traditional class, normal period could lead up to 45 minutes.

Disadvantages

Shifting to a new model is not that easy. Resistance towards this model has come from students, educators and parents, claiming numerous concerns. They claim students have tough time adjusting and adapting to this model. Students feel burdened, as they have to do a lot of works while at home. They suppose to spend their free time surfing through the Internet to get socialized in the social media, and not worrying about watching the pre-recorded instructions (Defour 2013). Parents and teachers feel hesitate because they learnt through lectures, so why can't their children? They claim that lectures are not bad at all (Goodwin and Miller 2013). Springen (2013) also mentions that there are certain students who refuse to do home works, whether it is worksheet or a video lesson.

Another major drawback is the Internet connection. There are some rural schools without the Internet connection. However, teachers have backup plans by giving out DVDs and flash drives. Apparently, parents also stress up when they have to share their PCs or laptops with their kids at home (Fulton 2012).

Last but not least, teachers worry about the management of the new model. They feel that recording a video is harder than what they can do in front of the class. Let alone to have more workloads planning and recording videos at home (Defour 2013). Teachers, who like quiet classroom, might have a hard time while conducting collaborative assessments. While collaboration is a crucial component in flipped learning, students may struggle individually on standardized tests (Springen 2013).

The Implications of Teaching and Learning

Flipping the classroom makes a pedagogical shifts from conventional and static content delivery to an active, collaborative classroom between students and educators while having the application of content and reflection on learning experiences. By pushing out content materials outside the classroom, class is totally freed up to engage students in problem solving, active communication between educators and peers, and educators can assess students' understanding and give immediate feedbacks. On the other hand, flipping the classroom could challenge both students and educators' roles in the classroom.

Conclusion

In clonclusion, flipped learning could benefit all. An online survey shows that 450 teachers are practicing flipped learning with improved performance and attitudes (Hamdan et al. 2013). Active and meaningful learning are achievable through flipped learning. Thus, teachers are satisfied and excited to use it. Educators are informed that by having flipped learning, they have better insight into their students' level of understanding. They have better interaction with the students too (Roehl et al. 2013). The existing conventional teaching pedagogy should be shifted to ensure that our education system is able to produce better generations.

In the other hand, there is no precise number of teachers practicing flipped learning in Malaysia. However, flipped learning is surely growing fast among educators in the entire Malaysia. It is proven through number of research done in flipped learning as well as through the educational learning social networks, educational plannings and conferences done by higher institutions. It is recommended to do research and to know how many of teachers are practicing flipped learning. It is good to know at what stage are they now if they already performing the flipped learning model.

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