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Flipped Classrooms: Models and Pedagogical Implications

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Abstract

The research at hand aims at spotting the light on Flipped classroom model and its pedagogical implications. Flipped classroom is a new model of teaching-learning which focuses on learners' needs. This model helps learners to be more involved in learning process. It is the opposite of traditional learning. In other words, flipping the class means flipping the way of presenting the lesson. Learners would be exposed to the new content through watching an educational video that is recorded by the teacher or found it on internet. Since 2012-2020, flipped model has been applied nearly in all fields. The results have showed the positive impact of this model on learners' achievement, interaction and engagement. Some recommendations that could be taken into consideration for further studies have been mentioned. For instance, the essential of applying flipped classroom model in Iraqi settings.

الفصول الدراسية المعكوسة: النماذج التربوية

عمر علي الياس

جامعة الموصل، كلية التربية للعلوم الإنسانية، قسم اللغة الإنجليزية، الموصل، العراق.

المستخلص

يهدف البحث الحالي إلى تسليط الضوء على نموذج الفصول الدراسية المعكوسة وآثاره التربوية. الفصل المعكوسة: هو نموذج جديد للتعليم والتعلم يركز على احتياجات المتعلمين. ويساعد هذا النموذج المتعلمين على المشاركة بشكل أكبر في عملية التعلم عكس التعلم التقليدي. بمعنى آخر، يعني تقليب الفصل تقليب طريقة تقديم الدرس. سيتعرف المتعلمون على المحتوى الجديد من خلال مشاهدة مقطع فيديو تعليمي يتم تسجيله بواسطة المعلم أو العثور عليه من الإنترنت. منذ سنة 2012-2020، تم تطبيق النموذج المعكوس في جميع المجالات تقريباً. وأظهرت النتائج الأثر الإيجابي لهذا النموذج على تحصيل المتعلمين وتفاعلهم ومشاركتهم. لقد تم ذكر بعض التوصيات التي يمكن أن تؤخذ بعين الاعتبار لمزيد من الدراسات. على سبيل المثال، من الضروري تطبيق نموذج الفصل المعكوس في المؤسسات التربوية والتعليمية العراقية.

الكلمات المفتاحية: الفصل الدراسي المعكوس، الفيديو التعليمي، احتياجات المتعلمين.

Introduction:

For decades, traditional teaching mode is the dominant in the field of language-teaching and learning. It is one way process in which teachers transmit knowledge to learners through indoctrination, i.e., learners are passive receiver of knowledge. The traditional classroom is teacher-centered approach (Bergman and Sams, 2012: 15). In other words, the acquisition of knowledge depends mainly on the teacher's guiding. Due to the rapid development of technology and the fact that learning is a process of communication and interaction, traditional teaching mode needs to be reformed in order to meet the need of each learner as well as education (Ibid, 2012; Li, 2016). Flipped classroom, hence, has come into being as a learner-centered approach that meets the interest and need of each learner in many languages learning context.

Flipped classroom (FC hereafter) is a new instructional approach that reverses the process of teaching and learning inside the traditional classes. This approach dictates the in-class time only for learners' discussion and engagement in interactive activities that based on questioning (Bergmann and Sams, 2012; Bishop and Verleger, 2013). On the other hand, understanding the topic is usually done outside the classroom by learners themselves through watching an assigned video prepared by the teacher or accessed online (Bergmann and Sams,2012; Bristol,2014). For the first time flipped classroom is applied in 2007 by two chemistry teachers Jonathan Bergmann and Aron Sams and attracts the attention of many educators in various disciplines including language teaching.

Statement of the Problem

Despite the fact that many researches have shown the positive impact of Flipped classroom on learners' learning, performance, achievement and the ability to be independent learners as well, FC and its models have not been applied widely in Iraqi EFL settings. This might be due to the little awareness or knowledge of this model and how to be implemented. As Linda (2012) argues "the question is not whether to flip" but rather how to flip "the elements of effective instruction to teach students both deep conceptual understanding and procedural fluency" (P.1).

Aims of the research

The research at hand aims at attracting Iraqi instructors' and teachers' attention towards the potential of flipped classroom and its models in education field in term of the following questions:

1. What is flipped classroom?
2. What are the advantages and disadvantages of its implementation?
3. What are the four pillars of Flipped classroom?
4. What are the three models of Flipped classroom?
5. How to be implemented? What are its pedagogical implications?

The concept of Flipped Classroom

The constructivist approach to teaching-learning transfers the responsibility of learning from the teacher to the learners through devoting face-to-face hours for peer instruction, project-based learning and inquiry. In tradition mode, teacher's dominant is clear as the in-class time is spending on presenting the concepts, asking learners to read, giving homework and so

on. This model has been emerged as a new model of teaching-learning to change these practices through devoting the class hours for assessing learners' learning and helping them to apply what they have learned as well (Dickenson,2014; Prodoehl, 2015). FC is defined as what “is traditionally done in class is now done at home, and that which is traditionally done as homework is now completed in class” (Bergman and Sams, 2017:3). To put it in another way, flipped classroom is the reverse of traditional classroom (teacher-centered teaching mode) which is defined as an “instructional method that educators use to turn the traditional classroom lecture model into more active learning classroom” (Keengwe, et al , 2014:.xviii).

The philosophy behind flipping the class is to provide education out of the classroom. In other words, rather than teachers present the concept in the classroom, learners are required to learn the concept outside the class hours usually at home through watching an assigned educational video and are expected to complete tasks individually at their own pace and their own time (Bergman & Sams, 2017; Dickenson,2014; Ogden et al, 2014). From this perspective, FC is clear to be seen as a learner-centered approach. Ogden, et al (2014:49) defines FC as “a pedagogical design that replaces what typically takes place during a face-to-face lecture with engaging activities and assigns the lecture as homework for students to complete autonomously outside of class”. This method implies that learners learn the new content at home through accessing the educational video assigned by the teacher or found on the internet according to their needs and preferred time. They can pause the video, rewind it and repeat it as they need (Bergman and Sams, 2007; Staker& Horn, 2012). Moreover, Teachers, in FC, focus more on interaction and socialization during the in-class time while more opportunities for learning are provided outside the classroom (Staker &

Horn, 2012; Carhill-Poza, 2019). Thus, as Khalil and Faim (ibid) state that flipped classroom is “an alternative model of instruction in which digital technologies are used to shift lectures out of class hours in the form of screen-cast videos to introduce new concepts”.

Finally, to implement this model successfully a number of components should be taken into consideration: First, flipped classroom cannot be incorporated without teacher-learner and learner-learner collaboration. Literally, FC may appear messy, loud, disorganized, but collaboration will help in learners’ learning. Second is applying learner-centered learning principle, since flipped classroom is a shift from teacher-centered to learner-centered. Third is adequate time for implementation. Fourth is the cooperation between those who are in charge and teachers in order to provide resources necessary for a successful implementation. The last component is the IT support which provides learners with website or platform to access the educational video easily (Bharali,2014; Bergman & Sams, 2014b; Mathews,2015 cited in Alsowat , 2019:110).

Historical background

Peer Instruction method has been used by Eric Mazur in 1990; a professor at Harvard University. Eric has used it as a method of exposing learners to the new materials outside of the class hours. Then the in-class time is dictated for asking and answering questions, thinking and other interactive activities. This method has been considered the crucial pillars on which flipped classroom is based (Xu and Shi , 2018: 882).

The term flipped or flipping has been used first by Wesley Baker (2000) but has not been given that much of attention. In 2005, it has reappeared in

Tenneson and McGlasson's (2005). They use FC to provide more time for hands-on activities, i.e., to change the in-class time into learning activities where learners become active participants. Because of the urgent need to find extra time to provide learners; who could not attend the lessons due to illness or school's activities and sports, with remedy lessons. Another reason is the "nearby' schools are not truly nearby" (Bergmann and Sams, 2012:3). That been said, learners spend most of their time on buses travelling to and from, and they struggle to stay caught up. The two high school teachers (Bergmann and Sams) in Colorado start implementing flipped learning in their chemistry class. They have started recording their lessons using power point and upload them online (Ibid,2012:3)

Over years, their lectures start being used as "plans for substitute teachers, and some new teachers used them to learn chemistry content so they could teach it to their students" (Ibid,2012:4). Accordingly, flipped classroom method has become recognized and widespread around the world by many educators and teachers in various fields. For instance, Conry and See (2014) use FC method for a faculty in clinical pharmacy. Faculty instructors are required to watch a video on "How to make a paper crane", then send pictures of their crane to the facilitators. The in-class time is covered with feedback and evaluation of the cranes. This study has succeeded in improving FC as an approach that could be used in teaching pharmacy learners (cited in Uzunboylu and Karagozlu, 2015:144). Roach (2014) applies partially- flipped class during one semester of micro-economics course to analyse learners' perception towards FC. He has found that learners have positive attitudes towards FC implementation (cited in ibid:144). In 2015, FC has been used as an approach to re-design a

population health course of a nursing program. The results show that learners have better understanding of the content in FC (Simpson and Richards, 2015: 162-167).

The four pillars of FC

For skilled or professional teachers to flip their classroom efficiently, four crucial elements or pillars have to be followed. Each one of these four pillars is symbolized through the word “FLIP”:

1. F (Flexible Environment)

The aim of applying flipped learning is to make autonomous learners. Learners have the flexibility of choosing what, where and when to learn through conducting various strategies such as group work, research, independent study, peer work. (Sakulprasertsri, 2017; Yildirim & Kiray2016).

2. L (Learning culture)

The focus of implementing flipped learning is to shift the culture of learning, i.e., orientation. As learners become more responsible for their own learning, learning becomes more learner-centered. Learners will learn inside and outside the class on their own and be able to assess their own learning.

3. I (Intentional content)

The implementation of FC gives teachers a great role. They have to decide what should be taught directly and what materials they do need to help learners learn the concepts outside the classroom. Because the content chosen is to maximize the in-class time, helping learners to experience

different learning instructions such as project-based learning, problem-based learning, or inquiry-based learning (Sakulprasertsri, 2017:134)

4. P (professional Educator)

Teachers in FL are more responsible than those who use traditional learning. They have to decide “when and how to shift away from direct instruction towards individually directed learning. They also have to decide how to provide the interaction between learners or teachers and learners” (Sakulprasertsri,2017: 134). Additionally, teachers in FL have to observe learners continuously, evaluate learners’ study and provide feedbacks (ibid; FLN,2014).

Advantages of applying Flipped Classroom

A huge body of research supports the benefits of flipped classroom. In theory, FC enhances the interactive period within the class which in turn provides many opportunities for cooperation, innovation, discussion and explaining the unclear points (Bergmann and Sams, 2012; Ash,2012; Fulton,2012). Moreover, it provides opportunities for team work which in turn improves learners’ achievement as learners become more motivated and confident (Milman,2012; O’Flaherty & Philips,2015; Hung,2015; Baepler, et al ,2014; Murphree,2014’ ;Wlison,2013; Hamdan et al, 2012). Besides, the interaction between teacher-learners and learners-learners; whether inside or outside the classroom, would be increased.

Disadvantages of applying Flipped Classroom

As a new instructional method, FC is not easy to be efficiently applied by all teachers and educators. It is considered as a challenge especially for

teachers who implement it for the first time. This has been supported by Collin (2011 cited in *ibid*:18) who argues that teachers will “face a challenge even after they have been already well-prepared”. Moreover teachers are usually more interesting in shifting traditional learning to flipped learning, but this interest may not be found in Learners because they are not always ready for this “radical change” (Bergman and Sams, 2012:18) . On the part of teachers, FC is time consuming. Teachers spend much of their time not only inside the classroom but also outside the classroom. They are required to create or upload educational videos in accordance with class activities. Failing to do so would negatively affect learners’ motivation (Talbert,2012; Enfield,2013).

The Role of Teacher

Due to the fact that teachers change from “sage on the stage” to “guide on the side”, FC is learner-centered (T.Rosenberg,2013 cited in Nwosis et al, 2016:349). Instead of delivering knowledge, teachers are busy in:

1. Interacting one-on-one, helping those who are struggling and acting as a facilitator or adviser.
2. Providing feedback continuously on each learner’s learning progress through using a variety of pedagogical strategies
3. Selecting the suitable content and creating or uploading interactive video lessons since videos are the main resource of FL.

(Bergmann and Sams, 2012:17; Sakulprasertsri, 2017:135).

The Role of Students

Since there is a shift from teacher-centered to learner-centered learners in flipped classroom are the active promoter of knowledge rather than the

passive receiver of knowledge. They are more responsible for their own learning, i.e. responsible for viewing the assigned videos, asking questions, share their work, completing tasks and making appropriate use of the teacher's experiences to help them understand the content (Bergmann and Sams, 2012:16-7).

Flipped Class Models

Applying flipped learning has been debatable; there is no single way to flip the classroom. Flipped classroom is a mindset process, i.e., redirecting attention away from teachers to learners and learning (Bergman & Sams, 2007:11). Therefore, educators and teachers who want to flip their classes need to decide a model to be followed. In general, there are three different models:

1. Traditional model

Jonathan Bergmann and Aron Sams (2007:13) describe the concept of the traditional flipped classroom as “that which is traditionally done in class is now done at home, and that which is traditionally done as homework is now completed in class”. In this model, learners come to class having watched the educational assigned video the previous evening before the class. Then learners start with a session of short questions and answers for clarifying any confusion from the video, i.e. to explain comprehensively the points that are not understood. The rest of the time is used for more extensive hands-on activities and/or problem-solving (see Table 1.4 adopted from Bergman & Sams, 2012:15)

Table 1.4: Traditional classroom verse Flipped classroom time

Traditional Classroom		Flipped Classroom	
Activity	Time	Activity	Time
Warm-up	5min.	Warm-up	5min.
Go over previous night's homework	20min.	Go over previous night's homework	10min.
Lecture new content	30-45 min.	Guided and independent practice	75min
Guided and independent practice	20-35 min.		

According to the table above, learners get ultimate opportunities to learn independently and much of the time is spent on them (Ibid, 2012:16).

2. Partial model

The main principle of flipping the class is to expose learners to the new content outside of school hours through uploading an educational video. Gwyneth, a teacher at Murray Hill Secondary School, asks her learners to watch the assigned educational video as enrichment activity. In other words, Gwyneth does not punish those who could not watch her at home as she takes in her consideration that not all learners have access at home. Therefore, her flipped classroom has been considered as “Partial-flip”. Because it is a part of traditional flipped classroom model of

Jonathan Bergmann and Aron Sams (2007) (Bajunury, 2014; Springen, 2013)

3. Mastery-based model

The question “Do all learners have the same characteristics to take the same education through the same teacher and in the same environment?” has been found in various researches. The answer of this question indicates that individual differences have impact on learners’ learning. In other words, we cannot expect learners to give the same level of learning under the same condition. Thus, educators and teachers start looking for a learning environment in which all learners can achieve the same level of learning (Levine, 1985; Bloom, 1981). Mastery learning has emerged as an instructional strategy in 1920s but received a lot of attention in 1960s by Benjamin Bloom when he likens educational institutions to “a race where only the fastest learners were rewarded” (Bergman & Sams, 2007:51). In other words, learners who demonstrate their proficiency on the first formative assessment will be provided with extension activities. These activities will give them [learners] opportunity to expand their learning (Guskey, 2010:2). In 2008, Bergmann and Sams reform their traditional flipped classroom into Mastery-based flipped classroom. They report that “despite our best effort to meet the needs of all students, we were still pushing our kids through our curriculum whether they were ready to move on or not. We began to wonder if we could set up a flipped classroom that also had elements of mastery-learning environment (students learn a series of objectives at their own pace) (Bergman & Sams, 2007:9). Mastery-based flipped classroom takes the “principle of mastery-learning and marries them

with modern technology to make a sustainable, responsible, and manageable environment for learning” (ibid:53).

Mastery based-flipped classroom breaks down the subject to be learned into units of learning, each unit with its objectives. In this model of teaching, learners are given a series of objectives, and resources such as videos, worksheet, texts, and assignments of all the units which are expected to be completed at their own pace to achieve these objectives (Bergman & Sams, 2007; Ash,2012). That been said, each learner is required to achieve the pre-established level of learning before moving on to the next outcome (Collins & Halverson , 2009; Lalley & Gentile, 2009). Additionally, Overmyer (2010:4) asserts that if learners fail to achieve mastery on their initial attempt, “corrective instruction may take the form of tutoring by the teacher, teacher aids, students tutors or by students who did achieve at the criterion level". In MBFC, learners are not contemporarily working on the same activities but rather some learners “conducting experiments....., some watching videos...., some working in groups...., some interacting with the white-board to engage with online simulations, some studying in small groups, and some taking assessments” (Bergman & Sams, 2007:53). In this sense, MBFC has been considered a “true” flip classroom (cited in Ash,2012; Bajurny, 2014,p.20). In this model learners, who were previously unchallenged, become more active and productive while struggling learners have the opportunity to move at a slower speed (ibid). This has previously supported by bloom who said that mastery-based flipped classroom could provide teachers with opportunities to know the area of their learners’ weakness and spend more working through corrective activities (cited in Guskey, 2007:11). As a nut shell, learners in MBFC focus on mastering the

content while educators provide corrective feedback and remediation (Wambugu and Johnson, 2007 cited in Johnson, 2013:29).

The Implementation of Flipped classroom

In the 21st century, a radical change in education system has happened. The centralization of the classroom has been shifted from teacher-centered to learner-centered. Educators and teachers have started looking for a method or approach that could achieve learners' needs. Flipped classroom has been emerged as a new model of teaching-learning that could help learners survive in this globalized world. Many researchers and educators in different fields have started flipping their class convincing its pedagogical significance. Some of the studies are going to be presented in the following paragraphs:

Hung (2015) has flipped his class to investigating the impact of FC on EFL learners' academic performance, attitudes and participating level at Taiwanese University. Learners in this study are divided into three groups using different format of FC: the first group is taught in a blended learning environment in the form of a structured FC, the second group is taught in a semi-structured FC using TED-ED as a technology tool, and the third group is taught in a traditional classroom. Positive results of structured and semi-structured flipped lessons lead Hung to recommend using FC as more effective pedagogical approach to foster EFL learners' academic level than traditional instruction.

Doman and Webb (2017) investigate Chinese Learners', in Macau, attitudes towards FC implementation using different technologies both inside and outside classroom such as Google Docs, Wiki pages, power

points, blogs, clickers, Moodle, video making tools, online quiz-application and so on. Data-collection methods, namely; surveys and interviews show the positive impact of FC on the use of technology in terms of teacher orientation, supporting learning and social presence of the learner. Moreover they show the positive attitudes of EFL learners towards the implementation of FC as they become more active and independent learners.

Abdullah (2019) examines the effect of applying FCM on the motivation level of Omani EFL learners, at Buraimi University College (BUC), to speak English. A motivation in English Speaking performance questionnaire (MESPPQ) that is conducted before, during, and after the implementation of FCM for fifteen weeks show that FCM could be used as an approach to increase the motivation level and interest of Omani learners in the implementation of FC as the findings show a significant differences in their academic levels.

Al-Mofti (2020) explores the effect of using FCM in teaching pronunciation for Iraqi EFL learners at University of Anbar. His study is lasted for fifteen weeks and comprised of sixty students from the department of English, Collage of Art. Learners in this study are divided into two groups, namely; experimental and control group. The results show that FCM has impact on FEL learners' pronunciation as there is a significant difference between the two groups which indicate that FCM had assisted EFL learners to improve their pronunciation level. Moreover, EFL learners show positive attitudes towards the use of FC.

Conclusion and Future Research

To compensate the educational demands of 21st century learners, it is crucial to utilize an innovate approaches of teaching-learning in education. Flipped classroom is a new model of teaching-learning which focuses on the idea that learning could be done outside schools hours. Learners will take the responsibility of their own learning and they will be able to evaluate it as well. In termers of teachers, this model of teaching-learning allows them to choose materials related to real-life situations. Learners, in turn, will be able to use technology to access the assigned materials and expand their knowledge themselves anywhere and anytime. Since many researches regarding the potential of flipping the class are increasing day by day, the number of researches regarding this model of teaching is just a few in Iraq. The researcher, hence, recommend the implementation of flipped classroom in Iraqi settings.

Consequently, many researchers and educators such as Bergman and Sams (2012); Hung (2015); Lee & Wallace (2017), etc., have asserted a number of suggestions on how to be implemented. First, defining the objectives and learning materials. Second, creating or downloading videos to achieve those objectives. Third, planning the in-class and out-class activities. Finally, learners should be trained on how to watch the assigned videos. Finally, construct assessments to assess learners' knowledge and understanding. For the future researches, the researcher suggests to apply flipped classroom in different contexts to investigate how effective the implantation of flipped classroom is compared to the traditional classroom.

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