The Effect of Flipped Professional Development on Novice EFL Teachers' Achievement

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ABSTRACT

Flipped Learning is a rather new approach to teaching. In this approach, the place of teacher' s lectures in the classroom and homework assignments are exchanged to enhance active learning, engagement, and achievement. Flipped learning can be applied for the professional development of pre-service and in-service teachers as well. This study investigated the effect of flipped professional development on the achievement of novice EFL teachers. For this purpose, 150 teachers were selected through purposive sampling from different language institutes and non-profit educational complexes such as Roshangar and Tazkieh in Tehran, District 2. The teachers were divided into experimental and control groups. The experimental group was attended the flipped classroom, whereas the control group attended traditional lecture-based classrooms (equal N=75). Based on the teachers' needs, the course of "Classroom Management "was adopted to be taught in 6 weeks. "Farhangyada, "which is a learning management system, was employed to load the required material of the course for the experimental group. An instructor taught the content of the course for the control group in the traditional way. To collect data, pre-test and post-test were conducted to explore teachers' achievement. Results indicated that teachers in the flipped professional development performed better than teachers in the traditional class.

Keywords: Flipped professional development; Achievement; Novices; EFL Teachers.

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1. Introduction

Education experts are always looking for new teaching methods in teaching and learning environments (Biggs & Tang, 2011). Researchers are working to enhance student learning through these new teaching methods. "Flipped Learning "is one of the new approaches that has been proposed recently. In this educational approach, the direct teaching of a teacher is transferred to the outside of the classroom. In contrast, the classroom time is spent on doing homework and activities under the supervision of the teacher as a facilitator (Ojalvo & Doyne, 2011).

In any system of education, the teacher training program is a necessity for developing teachers' knowledge, efficiency, and effectiveness. For this reason, pre-service and in-service classes are held each year for teachers. Research showed that these classes are held in a traditional way in which instructors, who are

generally invited from university, lecture in the class while teachers just listen and take notes. This kind of teacher training program has not been changed consistently with the needs of today's world (Sykes, Bird & Kennedy, 2010). In the traditional teacher training model, teachers' thinking and decision making are not taken into account. Besides, teachers are not aware of the importance of their role in promoting their professional development (Edge & Richards, 1993). Second Language Teacher Education, which began professionally in the 1960s (Richards, 2008), employed a traditional, unbalanced approach to education as well. In the traditional method, activities are done for teacher learning, so as the teachers are not engaged in the learning process (Lingard, 2003), on the other hand, teachers do not perform activities for learning. Research indicated that the last two decades of the twentieth century had marked the beginning of changes in teacher education, and the view to the teacher as a passive learner in the training process has changed so that teachers are considered as decision-makers in the learning process (Borg, 2003). In the new approach, the teacher is thinking and reflecting during the learning process (Crandall, 2000).

In the last few years, the Flipped Classroom has been one of the new phenomena (Blair, Maharaj & Primus, 2016) and has made significant progress so that educational experts believe that this will revolutionize learning environments. The use and interest in this approach are on the rise (Bergman & Sams, 2012). The flipped classroom is one of the topics that will attract the attention of the world of education in the coming years (Attaran, 2014). For these reasons, this study investigated the effect of flipped professional development methods on novice EFL teachers' achievement.

2. Review of Literature

Flipped Learning

Flipped classroom as a new phenomenon (Blair et al., 2016) had been used with different names such as inverted classroom (Bates & Galloway, 2012), blended learning and inverted classroom (Bergman & Sams 2012; Alvarez, 2012), backward (McLaughlin et al., 2014), reverse instruction (Halili & Zainuddin, 2015). Some happenings such as Mazur's "Peer Instruction Technique "in 1996 (Mazur, 2009), the inverted classroom of Lage, Platte, and Trgellia in 2000, Salman Khan's "Non-profit Web Site "in 2006 which produced educational videos, and finally, Bergman and Sams studies in 2012 consolidated the development of the flipped classroom.

The flipped classroom was formed based on a simple idea that completely changed the concept of the traditional class. In this approach, the teacher switches from "sage on the stage "to "guide on the side "(King, 1993: Rosenberg, 2013). Flipped classroom helps teachers have more interaction with the learners, whether individually or in groups in the class. As the traditional homework is now done in the classroom, it leads to more classroom activities (Anderson, 2012) and teachers' lectures are now transformed into homes in a variety of forms such as video, text or audio; therefore, learners have the opportunity to watch or study these teaching materials as many times as they wish and to learn at their own pace (Bergman & Sams, 2012).

The implementation of the flipped classroom is also simple. In this approach, direct instruction is performed by video or other teaching materials, then learners study for learning before entering the class. At this stage of learning, learners need lower levels of cognition, such as "knowledge, "and "understanding. "This shift allows the teacher to use classroom time for individual and group activities (Bergman & Sams, 2012). In this way, class time is spent on discussing, doing homework, applying content, and involves the achievement of higher levels of cognition taxonomy of Bloom, such as " application, "analysis,"synthesis, "and " evaluation." by the guidance of a teacher (See & Conry, 2014). In fact, the lower levels of cognition, such as "knowledge "and "understanding "take place outside the classroom. With this teaching method, learners can watch or listen to, what the teacher did in the classroom, before entering the class with a mind full of questions. The teacher supervises and directs learning activities, such as group discussions, questioning, short-term exams, lectures, tests, and other classroom tasks.

Flipped learning is based on three theoretical principles. One of these theoretical principles is blended learning (Abeysekera & Dawson, 2015). Blended learning moves classroom lectures into the online presentation and benefits from the classroom face-to-face activities (Hill, 2014). The

second principle is the learner-centered approach (Clark, 2015) that moves the learner away from the teacher-centered learning environment (Johnson, 2012). The learner-centered approach stems from the "constructivist" view (Strayer, 2012). Constructivism implies that knowledge is constructed by the learner, and knowledge is not infused passively from the outside. Learning happens by the learner and should not be imposed on the learner (Sjøberg, 2010). The third theoretical principle is the theory of active learning (Lemmer, 2013), which emphasizes the activity and engagement of learners in the learning process (Prince, 2004). Besides, flipped earning has four pillars derived from the letters "F-L-I-P, "which stands for flexible environments, learning culture, intentional content, and professional educator. These four pillars increase classroom time, dynamic activities, and increased engagement in the classroom (Hamdan, McKnight, McKnight & Arfstrom, 2013).

Types of the Flipped Classroom:

1-Traditional flipped classroom: In this model, learners watch instructional videos at home, do exercises in class, and the teacher helps learners understand the content. This model was used for doing this study.

2- Flipped **m**astery: Learners work at their own pace individually, and after practicing with peers and instructors, they are evaluated. If they get 80% or more in this evaluation, they can move on to the next stage; otherwise, they have to re-read and re-test.

3- Peer **i**nstruction **f**lipped **c**lassroom: This model was put forward by Major Harvard Professor of Physics (Ouda & Ahmad, 2016). In this model, learners answer conceptual questions individually in the class; then, they try to persuade their peers with their answers.

4- Problem-**b**ased **l**earning **f**lipped **c**lassroom: Learners find an issue, and learning happens when they are watching. Meanwhile, they watch videos that help the discovery process.

5- Inquiry **f**lipped **c**lassroom: This is mostly used in science classes. Learners watch a short film, and they try to understand the concept in the class time. Then the learners try to talk about what happened. The whole film is helpful in removing misunderstandings. Problem-based learning flipped classroom and inquiry flipped classroom are not expected learners to watch videos before the class.

Professional development

Professional development is generally referred to as the development of the individual in his or her professional role and, in particular, is the professional development of the teacher resulting from the gradual acquisition of teaching experience and continuous monitoring on teaching (Glatthorn, 1995). The goal of professional development is to empower teachers and seek to enhance their competence and contribute to the dissemination of knowledge among teachers (Borko, 2004a) Professional development can affect teachers' knowledge to the extent that they change their teaching methods in the classroom. In language teacher education, recent research has shown that professional development investigates how teachers' knowledge is formed, how teachers learn, and how they reflect on their teaching (Richards, 2008). Professional development encompasses formal and informal learning experiences. Teachers gain these experiences in "teacher training "courses from employment to retirement (Ganser, 2000). Formal experiences include attending workshops, meetings, and internships. Unofficial experiences include reading professional literature and watching scientific documentary programs. Desimone, Porter, Garet, and Birman (2002) categorized professional development into two groups:

1- Traditional professional development   2. Reform professional development

In a traditional professional development paradigm, knowledge is transferred to the teacher and emphasizes what the teacher should know. The teacher receives information

during the learning process. This is a passive learning method (McLeskey & Waldron, 2002). Traditional professional development is essentially a top-down pattern (Barab, MaKinster, Moore, & Cunningham, 2001). The teacher should receive training from an expert who comes from outside and is thought to be a more appropriate option for teacher training (Moravec et al., 2010). But this type of professional development is formal and abstract (Lieberman, 1995) because it covers only short-term courses, workshops, teaching approaches, and the outside experts' techniques. These courses are top-down and are distant from the real environment. This type of professional development is designed based on the "One size for all "model and is not very successful in achieving the goals (Moravec et al., 2010). In other words, what disrupts traditional professional development programs is the traditional, focused, and experimental style of programming that does not foster critical thinking. This form, which is "sit and get information, "is no longer a productive way of learning (McLeskey & Waldron, 2002). Therefore, the use of multiple and varied approaches to teaching is recommended. Changing the traditional professional development approach results in the lecturer changing from specialist to facilitator in the learning process which enhances positive learning outcomes and leads to optimal knowledge transfer.

Reform Professional Development

As professional development shifts away from workshops wherein teachers only receive information, it is intended for teachers to have their own "production of knowledge, "and reflect on their teaching beliefs and practices to meet students' needs and program goals. This action is taken from the bottom-up model, it is long-lasting and enables teachers to think, to reflect, and to work in groups in their schools so that they could seek innovative ways to reach their goals in the classroom. They attempt to solve educational problems that led to high-quality professional development approaches, such as practicum, content-based collaborative inquiry, and cognitively guided instruction.

Flipped professional development was proposed by Droneen and Daniel (Bergman & Sams, 2014). This approach is similar to the flipped classroom. In this approach, the low-level of group teaching is transformed into individual teaching. In flipped professional development, flipped learning means teacher access to digital content. Therefore, a face-to-face classroom is for discussion and the exchange of tasks rather than sitting and listening. Flipped learning can be applied to different career development scenarios. Some teachers believe that flipped professional development is just providing information for the teacher before entering the workshop or meeting, but this is just the beginning, and the real impact of flipped learning occurs when learning becomes personalized (Bergman & Sams, 2014).

Selected studies on flipped learning

Flipped classroom as an instructional model has been researched in the education literature, including higher education (O'Flaherty & Craig, 2015), high school (Moran & Milsom, 2015), and has been researched in different fields of studies such as physics (Rundquist, 2012), physical education (Thompson & Ayers, 2015), psychology (Talley & Scherer, 2013) and economics (Kurihara, 2016). Many studies indicate that students' active participation in learning, such as asking questions, participation in classroom activities, is one of the main features of the students' achievement (Kuh, 2009). Flipped classroom proponents believe that higher levels of achievement and improved engagement are the advantages of flipped learning (Alvarez, 2012; Clark, 2015).

Davies, Dean, and Ball (2013) investigated the effect of the flipped classroom on the students' achievement and satisfaction. This study was performed for five weeks during two semesters at Brigham Young University in 2012. The participants' were taught in a traditional way in the first semester, and the second semester the participants' were taught in a flipped classroom. The results showed that flipped classroom facilitates learning, and the class become more effective and motivating. There are other studies that indicated students improved their learning statistically, and they mastered the content and achieved a high score in the test in the flipped classroom (Enfield, 2013; Talley & Scherer, 2013).

Kaviani, Mostafaei, and Khakreh (2015) studied the effect of the flipped classroom on the achievement, self-regulation, interaction, and motivation of the students in Kermanshah, Iran. The results indicated that the flipped classroom had a significant difference in the dependent variables.

Esmaeil far, Taghvaei Yazdi, and Niyaz Azari (2015) studied the effect of the flipped classroom on students' learning science. In their quasi-experimental research, pre-test and post-test were conducted. Participants were the 6th-grade students of the primary school in Gha'em-Shahr, Iran. Results showed that the flipped classroom had a significant difference in the students' learning.

Compared to research on the implementation and efficacy of the flipped classroom approach in other disciplines, there is very little research on the effectiveness of the model in teacher education. In one case study, Vaughn (2014) investigated the effect of flipped classroom approach on pre-service teachers' engagement level in a teaching profession course indicated an increased level of teachers' reflection and inquiry in the flipped group. Hardin and Koppenhaver (2016) investigated the effect of the flipped classroom on teacher professional development and indicated that flipped professional development offered superior learning opportunities, and the teachers had a positive attitude to flipped professional development.

With regard to the point that teachers are passive, listeners, and not accountable for their own professional development (Lingard, 2003), using the flipped classroom approach in teachers' professional development programs can be effective. The purpose of this study was to examine the impact of flipped professional development on novice English teacher achievement. Also, this study aimed at exploring the impact of flipped professional development on novice teachers' achievement majoring in English, and those teachers who were not graduated in English; they were graduated in other fields of study, such as engineering, medicine, human science but they taught English courses. The research questions of this study were as follows:

Research Question 1: Is there any statistically significant difference in EFL teachers' practical

achievement in the flipped classroom and traditional classroom?

Research Question 2: Is there any statistically significant difference in EFL teachers majoring in   English and teachers majoring in other fields?

3-Method

Design:

This study employed a quasi-experimental research design. The quantitative method was used to find the answers to the research questions. The flipped professional development model was used as a treatment to teach a course of classroom management for six weeks. Different materials such as videos, texts, podcasts were used for preparing the course in teaching. To obtain the required data pre-test and post-test were conducted. A one-way analysis of variance (ANOVA) was used to analyze the data by Spss 21.

Participants:

The participants of this study consisted of 150 female teachers who were 22-29 years old with the experiences of 2 to 5 years. Among them, 97 of the teachers were graduated in English, and 53 of teachers were the holders of Bachelor's Degree in non-English majors such as engineering, architecture, or human science. Among those teachers, 40 of them had Master Degrees. Purposive sampling (snowball) was adopted, and the participants introduced their friends gradually. These teachers were selected from Roshangar and Tazkieh Complexes in district 2 in Tehran and from language institutes in districts 1, 2, 3, and 5. The teachers were divided into experimental and control groups; two classes were assigned to the experimental group and two classes to control group. The class management course was designed and planned. The experimental group was held by the FPD (flipped professional development) method, while the control group had the traditional class, or lecture-based method.

Materials:

In order to determine the effect of flipped learning on teacher achievement, prior to the onset of the study five meetings was scheduled with some expert teachers, to clarify the purpose and intent of the study; to review the unit of instruction, and all related instructional materials; to assist in the identification of appropriate technology tools for use in the creation of instructional screencasts, and to facilitate the creation of the instructional screencasts that served as the mode of direct instruction for the experimental group in the study.

Finally, the content and the syllabus for a six-week unit classroom management was planned. When the educational contents prepared, it was time to create videos using software like" Grabber. "By this software, it is possible to capture and record the computer screen while working, and eventually, it is possible to have screencasts, or a video file. Some materials were prepared in the form of texts, and others were provided in the form of audio content or podcasts for six weeks of classes. Class resources were selected from several books such as, "Learning Teaching" (Scrivener, 2011), and "Classroom management that works" (Marzano et al., 2005).

Table- 1: table of content

Test Question by Number	Learning Objective Addressed
1, 2, 3,15, 29	Classroom management, definition, scope, and domain
8, 9, 14, 23, 30	Identify seating in the class, models, advantages
6, 7	Board
4, 27	Gestures
5, 11, 16	Prevent bad teaching
17, 28	intuition
8, 18, 20, 21, 22, 24, 30	Eliciting
5, 6, 7, 19, 25, 26	Interaction

Procedure:

Flipped Professional Development

The participants had a pre-test about the course at the beginning of the course. The participants, initially, became familiar with the Learning Management System(LMS), "Farhangyada, "and they were asked to register on this website to be able to download the course materials, before participating in face-to-face classes. Some teachers suggested using cellphones and social networks, such as "Telegram" to download material because they did not have access to a computer, so 50 of them used "Telegram" to download the required material. For the first session, a short movie and a text about FPD were uploaded on the site. As everyone became familiar with this method, the content of the "Classroom Management "course was gradually uploaded on the site, focusing on topics such as, definition, scope, and domain of the classroom management, the collaborative context, classroom discipline, development of effective communication between teachers, students, parents, and schools, and classroom rules and regulations, the advantages of various models of seating in the class, board and gestures. The face-to-face class time was used for discussion about the topics and deep understanding of the materials.

Traditional professional development

The participants in the control group had a pre-test at the beginning of the course. Then, they had a traditional class in which an instructor taught the management classroom course, lectured in the class, gave the information by presenting and using PowerPoints for six weeks; the participants listened and took notes. They had to study the notes outside the classroom. The content of the

course was the same as the content of the experimental group. Some scenarios and activities were given to them after the lectures. The activities were not completely done in the class due to the lack of time.

4- Data Collection:

A criterion-referenced test consisting of thirty questions was administered to both the experimental and control groups at the beginning of the unit as a pre-test, and at the conclusion of the unit, as the post-test. The test was consisted of twenty-two multiple choice questions, and eight true or false questions based on table 1. Following the prescribed treatment time of six weeks, the prepared test was administered as a post-test. Then, the difference between the individual teachers' pre-test and post-test results were compared. To estimate the reliability co-efficiency of pre-test and post-test scores of classroom management KR-21 formula was used. The result of the reliability coefficient of pre-test and post-tests were estimated to be 0.86 and 0.96, respectively. The reliability analysis of all items in pre-test and post-tests, including flipped and traditional groups, indicated that the teaching of participants led to the homogeneity of their responses to the items. To examine the construct validity of the performances of participants on management test, a principal component factor analysis was performed. To examine the requirement of factor analysis, KMO and Bartlett's Test was run.

5- Data analysis and results

This research examined the effect of flipped professional development on novice EFL teachers' achievement compared to the traditional classroom. In order to find a general picture of the achievement of flipped and traditional classes, a descriptive analysis was performed by Spss 21.

Table 2- Descriptive statistics of participants' Achievement in Flipped and Traditional classes

	N	Mean	Std. Deviation
Pre-test FPD classes	75	20.9600	3.70697
Post-test FPD classes	75	24.1733	3.08603
pre-test traditional classes	75	20.7333	4.42760
Post-test traditional classes	75	19.5600	3.50382
Total	300	21.3567	4.07244

The results as Table 2 shows, participants in flipped classes performed better in their post-test (24,17) while this is reversed in traditional classes (19.56). The homogeneity of participants' achievement in pre-test and post-test, except that of traditional pre-test, is almost the same.

To find the difference between participants in flipped and traditional classes, a one-way ANOVA was employed.

Table 3- Comparing pre and post scores in flipped and traditional classes

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	878.063	3	292.688	21.230	.000
Within Groups	4080.773	296	13.786		
Total	4958.837	299			

The one-way ANOVA (Table 3) showed that the participants' in these two groups of instruction performed significantly different (F (3,296) =21.23, p<0.000) in pre-test and post-test.

Table 4 -Multiple comparisons of pre and post Achievement in Flipped and Traditional classes

		Mean Difference (I-J)	Sig.
Pre-test Flipped	Post-test flipped	-3.21333*	.000
	pre-test Traditional	.22667	.987
	Post-test traditional	1.40000	.152
Post-test Flipped	pre-test traditional	3.44000*	.000
	Post-test traditional	4.61333*	.000
pre-test traditional	Post-test traditional	1.17333	.292

The post hoc sheffe test, as appeared in Table 4, showed that there was no significant difference in the pre-test of flipped and traditional class participants (p=098). In contrast, there was a significant difference between the pre-test and the post-test of flipped and traditional classes (p=0.00). There was no statistically significant difference in the pre and post scores of participants in traditional classes (p=0.29).

To compare the pre-test and post-test scores of participants in terms of field of study, a Univariate analysis was conducted.

Table 5- Descriptive statistics of pre and post Achievement score of EFL and Non-EFL participants

Descriptive Statistics				
	Field of Study	Mean	Std. Deviation	N
Pre-test FL	EFL	21.2826	3.69783	46
	non EFL	20.4483	3.72814	29
Post-test FL	EFL	24.2157	2.90733	51
	non EFL	24.0833	3.50052	24
pre-test traditional	EFL	19.9130	4.22598	46
	non EFL	22.0345	4.49986	29
Post-test traditional	EFL	18.7059	3.29420	51
	non EFL	21.3750	3.29443	24

The descriptive analysis Table 5, the Mean scores showed that EFL majors perfumed better in pre and post-tests in flipped classes while the non-EFL participants performed better in pre and post achievement test in traditional classes.

To compare the pre and post achievement scores of EFL and Non-EFL participants, a Univariate analysis was run.

Table 6- Comparing pre and post Achievement scores of EFL and Non-EFL participants

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1087.046[a]	7	155.292	11.712	.000	.219
Intercept	125978.597	1	125978.597	9500.967	.000	.970
pre and post achievement score	645.588	3	215.196	16.230	.000	.143
Field of study	62.223	1	62.223	4.693	.031	.016
pre and post achievement score * Field of study	148.385	3	49.462	3.730	.012	.037
Error	3871.790	292	13.260			
Total	141791.000	300				
Corrected Total	4958.837	299				
a. R Squared = .831 (Adjusted R Squared = .829)						

The results of Table 6, showed that there was a significant difference (F (1,292) =4.69, p=0.03) in the performances of EFL and non-EFL participants in the pre and post-test achievement test.

The interaction between pre-test and post-test achievement scores and field of study showed a statistically significant difference. (F (3,292) =3.73, p=0.01. Although there were significant differences in the performances of EFL and non-EFL participants in their achievement scores, the Eta squared in any of these comparisons was not high. Therefore, the generalization of this finding should be made with caution.

6- Discussion and conclusion

This research investigated the effect of flipped professional development using "Farhangyada," as an LMS, and "Telegram," as a social network on the achievement of novice EFL teachers. The study attempted to introduce the flipped professional development (FPD) approach to educators and curriculum planners to address the barriers that English teachers face. The findings showed that there existed a significant difference between the flipped classroom and the traditional class, and the model enabled teachers to perform more helpful activities; the teachers perceived that flipped classroom supported their learning. Analysis of the data showed that the novice teachers involved in the study were satisfied with the innovative idea of flipped professional development because they were involved in the learning process, as Vaughn, (2014) referred to it. English teachers were bored with sitting and listening to the lectures in the traditional classes. Instead, they preferred being actively engaged in the lesson.; they believed that they forget things when they are only listening. In general, most novice teachers in this study had a positive attitude toward the FPD. Novice teachers believed that they were active in FPD. The teachers were asked to comment on content at each session, they were asked whether this method could be used in a non-English class, they thought that this model could be used in other subjects as well. Teachers in the FPD experienced quality instruction that was learner –centered. Knowing the subject before arriving the class provided an opportunity for reflection and mastery, and helped the teachers to attend the class with a questionable mind in face-to-face classroom, asked questions from the instructor, or their peers that would have a positive effect on their performance while participants in traditional class may have been preoccupied with note taking during lectures. This is consistent with the study conducted by Kurt (2017). He flipped the teacher education program and concluded that flipped classroom is learner-centered, and individualized learning environment based on the constructivist theory of learning. He found that flipped PD improved self-efficacy, academic achievement, and favorable perceptions about FPD. Based on the results, it could be concluded that the flipped classroom increases the performance of novice

teachers and their achievement, and this is consistent with the research done by Yarbao et al. (2014), which concluded that flipped classroom model results in the increase in students' achievement. It can also be consistent with Osman's research, which found that changing the traditional classroom to flipped classroom had a positive effect on students' perceptions and achievement (Osman, Jamaludin & Mukhtar, 2014). Flipped learning enhances teacher-student, student- student interactions, making students better at knowledge and achievement, which is in line with Hardin and Koppenhaver (2016). They researched about flipped professional development. They found that teachers judged the flipped professional development model to be an effective approach, and teachers would probably continue to engage in future FPD opportunities and recommend the experience to colleagues. Flipped learning has been identified as an effective, learner-centered instructional approach that increases learner achievement. Flipped professional development offers the educators to re-create their practice in a way to move from being the "sage on the stage" to the "guide on the side."

One of the challenges that this study faced was the use of electronic tools, and some teachers had problems with the technology of the learning management system, "Farhangyada," and it took them a while to get used to it. About 50 teachers preferred social networks and used Telegram that was easily accessible on mobile phones. FPD requires more time on the part of the instructor. For example, in this study, the instructor had to prepare the content of the movies for the class and upload it on the website after editing, and also prepared it based on the lesson plan learning activities that would be appropriate for each learning object. The instructor needed more time to prepare for face-to-face class discussions and activities to provide appropriate feedback. In addition, instructors needed to have diverse skills in preparing class activities and instructors with pre-prepared questions and exercises.

This study had some limitations. First, because the researcher was the instructor of the class, the study may be compounded by unintended errors, and since the population was limited to female English speakers, the findings may not be generalized easily. More re-search is needed with the larger population of non-English speaking teachers and with larger non-English teachers.

This research contributes to flipped classroom literature and confirms findings similar to this research by providing evidence that flipped class desirability as an innovative method of teacher professional development. Finally, flipped classroom as a sustainable model of education can be applied to other teacher training and teacher development courses. Flipped classroom enhances teachers' learning experiences and promotes their future teaching. As a result, much work still needs to be done. This research can be done again to see if the same results can be achieved. Although it is a learning based method, it cannot be considered as the only solution to all educational problems, and there seems to be a need for quantitative and qualitative research to identify the capabilities of this approach and to find strategies to implement it.

References

Abeysekera, L., & Dawson, P. (2015). Motivation and cognitive load in the flipped classroom: Definition, rationale, and a call for research. Higher Education Research & Development, 34,1e14.
https://doi.org/10.1080/07294360.2014.934336

Alvarez, B. (2012). *Flipping the Classroom: Homework in Class, Lessons at Home*. Washington, DC: National Education Association.

Anderson, S. (2012). Flip the classroom—Revising the role of the professor. In: 45th annual conference, 10–14 June. Available at: ascue.org.

Attaran, M. (2014). Students are left behind the lessons- Journal of Roshd.

Barab, S. A., Makinster, J. G., Moore, J. A., & Cunningham, D. J. (2001). Designing and building an online community: The struggle to support sociability in the inquiry learning forum. *Educational Technology Research and Development, 49*(4), 71–96.
https://doi.org/10.1007/BF02504948

Bates, S., & Galloway, R. (2012). The inverted classroom in a large enrolment introductory physics course: A case study. Paper presented at the HEA STEM Conference, London, United Kingdom.

Bergman, J. & Sams, A. (2014). Flipped Leaning: Gateway to student engagement. International society for Technology in Education.

Bergman, J., & Sams, A. (2012). *Flip your classroom: Reach every student in every class every day*. Washington, DC: International Society for Technology in Education.

Biggs, J. B., & Tang, C. (2011). *Teaching for quality learning at university* (4th ed.). Maidenhead: McGraw-Hill Education.

Borg, S. (2003). Teacher cognition in language teaching: A review of research on what language teachers think, know, believe, and do. *Language Teaching, 36*(2), 81–109.
https://doi.org/10.1017/S0261444803001903

Borko, H. (2004). Professional development and teacher learning: Mapping the terrain. Educational Researcher, 33(8), 3-15.
https://doi.org/10.3102/0013189X033008003

Blair, E., Maharaj, C., & Primus, S. (2016). Performance and perception in the flipped classroom.
https://doi.org/10.1007/s10639-015-9393-5.

Clark, K. R. (2015). The effects of the flipped model of instruction on student engagement and performance in the secondary mathematics classroom. Journal of Educators online, 12(1), 91-115.
https://doi.org/10.9743/JEO.2015.1.5

Crandall, J.-A. (2000). Language teacher education. *Annual Review of Applied Linguistics, 20*, 34–55.
https://doi.org/10.1017/S0267190500200032

Davies, R.S., Dean, D.L., & Ball, N. (2013). Flipping the classroom and instructional technology integration in a college level information systems spreadsheet course. Education Tech Research Dev., 61, 563-580. doi: 10.1007/s11423-013-9305-6
https://doi.org/10.1007/s11423-013-9305-6

Desimone, L., Porter, A. C., Garet, M. S., Yoon, K. S., & Birman, B. F. (2002). Effects of professional development on teachers' instruction: Results from a three-year longitudinal study. *Educational Evaluation and Policy Analysis, 24*(2), 81–112.
https://doi.org/10.3102/01623737024002081

Edge, J., & Richards, K. (1993). *Teachers develop teachers' research*. Oxford: Heinemann.

Enfield, J. (2013). Looking at the impact of the flipped classroom model of instruction on undergraduate multimedia students at CSUN. TechTrends 57(6), 14-28.
https://doi.org/10.1007/s11528-013-0698-1

Esmaeilifar, M. S., Taghvai Yazdi, M., & Niyaz Azari, K. (2015). The Impact of the Reverse Classroom Approach on the Feelings of Elementary School Students. *National Conference on Arts Studies and Humanities Research*. Tehran. [In Persian]

Ganser, T. (2000). "An ambitious vision of professional development for teachers ". In: NASSP Bulletin,

84(618), 6-12 Professional Development Effective? Results from a National Sample of Teachers. *American Educational Research Journal, 38*(4), 915–945. *https://doi.org/10.3102/00028312038004915*

Glatthorn, A. (1995). "Teacher development ". In: Anderson, L. (Ed.), International encyclopedia of teaching and teacher education (second edition). London: Pergamon Press.

Halili, S., & Zainuddin, Z. (2015). Flipping the classroom: What we know & what we don't. The Online Journal of Distance Education & e-Learning, 3(1), 15-22.

Hamdan, N., McKnight, P., McKnight, K., & Arfstrom, K. M. (2013). The flipped learning model: A white paper based on the literature review titled "A Review of Flipped Learning. "Arlington, VA: Flipped Learning Network

Hardin, B. L., & Koppenhaver, D. A. (2016). Flipped Professional Development. *An Innovation in Response to Teacher Insights, 60*(1), 45–54. https://doi.org/10.1002/jaal.522

Hill, P. (2014). Online educational delivery models: A descriptive view.

Johnson, G. (2012). Students, please turn to YouTube for your assignment. *Education Canada, 52*(5), 16–18.

Kaviani, E., Mostafaei, M., & Khakere, F. (2015). Investigating the Effect of Flipped Approach on Educational Achievement, Self-regulation, Group Interaction and Students' Educational Motivation. *Research in Education.*.Vol 5, 5-6. [In Persian]

King, A. (1993). From sage on the stage to guide on the side. *College Teaching, 41*(1), 30–35. https://doi.org/10.1080/87567555.1993.9926781

Kuh, G. D. (2009). The National Survey of Student Engagement: Conceptual and empirical foundations. *New Directions for Institutional Research,* 2009(141), 5-20.

Kurihara, Y. (2016). Flipped Classroom : Effects on Education for the Case of Economics, *3*(2), 65–71. *http://doi.org/10.20448/journal.509/2016.3.2/509.2.65.71.*

Kurt, G. (2017). Implementing the flipped classroom in teacher education: evidence from Turkey. *Journal of Educational Technology & Society*, *20*(1), 211.

Lage, M. J., Platt, G. J., & Treglia, M. (2000). Inverting the classroom: A gateway to creating an inclusive learning environment. Journal Of Economic Education, 31(1), 30-43. *https://doi.org/10.1080/00220480009596759*

Lemmer, C. (2013). A view from the flip side: Using the "inverted classroom "to enhance the legal information literacy of the international LL.M. student. *Law Library Journal, 105*(4), 461–491.

Lieberman, A. (1995). Practices that support teacher development: Transforming conceptions of professional learning. Innovating and Evaluating Science Education: NSF Evaluation Forums, 1992-94, 67.

Lindstrom, R. (1994). The Business Week Guide to Multimedia Presentations: Great Dynamic Presentations That Inspire. McGraw-Hill, New York, NY. Ch. 2, 33-46

Lingard, B. (2003). Where to in gender policy in education after recuperative masculinity politics? *International Journal of Inclusive Education, 7*(1), 33–56. *https://doi.org/10.1080/13603110210143626*

Marzano, R. J., Pickering, D., & Pollock, J. E. (2005). Classroom Instruction that Works: Research-?-based Strategies for Increasing Student Achievement. Upper Saddle River, NJ: Pearson/Merrill Prentice Hall.

Mazur, E. (1997). *Peer instruction: A user's manual*. Upper Saddle River, NJ: Prentice-Hall.

Mazur, E. (2009). Education. Farewell, lecture? *Science, 323*(5910), 50–51. *https://doi.org/10.1126/science.1168927 PMID:19119207*

Moran, K., & Milsom, A. (2015). The flipped classroom in counselor education. *Counselor Education and Supervision*, *54*(1), 32-43. *https://doi.org/10.1002/j.1556-6978.2015.00068.x*

McLaughlin, J. E., Roth, M. T., Glatt, D. M., Gharkholonarehe, N., Davidson, C. A., Griffin, L. M., et al. (2014). The flipped classroom: A course redesign to foster learning and engagement in a health professions school. Academic Medicine, 89, 236e243 *https://doi.org/10.1097/ACM.0000000000000086*

McLeskey, J., & Waldron, N. L. (2002). Professional development and inclusive schools: Reflections on effective practice. *Teacher Educator, 37*(3), 159–172.

https://doi.org/10.1080/08877730209555291

Moravec, M., Williams, A., Aguilar-Roca, N., & O'Dowd, D. K. (2010). Learn before lecture: A strategy that improves learning outcomes in a large introductory biology class. *CBE Life Sciences Education, 9*(4), 473–481.

 https://doi.org/10.1187/cbe.10-04-0063 PMID:21123694

O'Flaherty, J., & Craig, P. (2015). The use of flipped classrooms in higher education: a scoping review. *The Internet and Higher Education*, 25, 85–95. Oaks, CA: Sage Publications. October/20101027144111eirrac0.2723963. html> 23.11.10. of state policy evidence. Education Policy Analysis Archives, 8(1), 1–50. Retrieved.

https://doi.org/10.1016/j.iheduc.2015.02.002

Ojalvo, H.E., &Doyne, S. (2011). Five ways to flip your classroom with the New York Times. Retrieved from http://learning.blogs.nytimes.com/2011/12/08/five-ways-to-flip-your-classroom-with-the-new-york-times/?_php=true&_type=blogs&_r=1

Osman, S. Z., Jamaludin, R., & Mokhtar, N. E. (2014). *Flipped Classroom and Traditional Classroom: Lecturer and Student Perceptions between Two Learning Cultures, a Case Study at Malaysian Polytechnic. International Education Research* (pp. 16–25). Science and Education Centre of North America.

https://doi.org/10.12735/ier.v2i4p16

Ouda, H., & Ahmed, K. (2016). Flipped Learning As A New Educational Paradigm. *An Analytical Critical Study, 12*(10), 417–445.

https://doi.org/10.19044/esj.2016.v12n10p417

Prince, M. (2004). Does active learning work? A review of the research. *Journal of Engineering Education, 93*(3), 223–231.

https://doi.org/10.1002/j.2168-9830.2004.tb00809.x

Richards, J. C. (2008). Second language teacher education today. RELC Journal, 39(2), 158e177.

 https://doi.org/10.1177/0033688208092182

Rosenberg, T (2013). Turning education upside down. New York Times, 11 October. Available at: http://opinionator.blogs.nytimes.com/2013/10/09/turning-education-upside-down/?_r=0

Rundquist, A. (2012, February). What is the Best Use of Class Time? Exploring the Issues of the Flipped Classroom. In *APS Meeting Abstracts* (Vol. 1, p. L3001).

Scrivener, J. (2011). Learning Teaching. The Essential Guide to English Language Teaching. Student's Book Pack.

See, Sh., & Conry, J. (2014). Flip My Class! A faculty development demonstration of a flipped-class. Currents in Pharmacy Teaching and Learning, 6(4): 585-588.

https://doi.org/10.1016/j.cptl.2014.03.003

Sjøberg, S. (2010). Constructivism and learning. In P. Peterson, E. Baker, & B. McGaw (Eds.), *International Encyclopedia of Education* (Vol. 5, pp. 485–490). Oxford, UK: Elsevier;

 https://doi.org/10.1016/B978-0-08-044894-7.00467-X

Strayer, J. (2012). How learning in an inverted classroom influences cooperation, innovation, and task orientation. Learning Environments Research, 15,171e193.

https://doi.org/10.1007/s10984-012-9108-4

Sykes, G., Bird, T., & Kennedy, M. (2010). Teacher Education: Its Problems and Some Prospects. *Journal of Teacher Education, 61*(5), 464–476.

 https://doi.org/10.1177/0022487110375804

Talley, C. P., & Scherer S. (2013). The enhanced flipped classroom: Increasing academic performance with student-recorded lectures and practice testing in a "flipped" STEM course. *The Journal of Negro Education*, 82(3), 339-347.

https://doi.org/10.7709/jnegroeducation.82.3.0339

Thompson, G. A., & Ayers, S. F. (2015). Measuring Student Engagement in a Flipped Athletic Training Classroom, *Athletic Training Education Journal,10*(4), 315–322.

http://doi.org/10.4085/1004315

Vaughn, M. (2014). Flipping the learning: An investigation into the use of the flipped classroom model in an introductory teaching course. *Education Research and Perspectives, 41*, 25–41.

Yarbao, J., Arfstrom, K. M., Mcknight, K., & Mcknight, P. (2014). *Extension of Review of Flipped Learning*. The Flipped Learning Network.