

## *Original Paper*

# Integration of E-Portfolio into an Iranian Flipped Classroom: Does the Flip Type Make a Difference in Listening Comprehension?

Shahriar Jalili<sup>1\*</sup>

<sup>1</sup> Assistant professor, Department of English Language, Islamic Azad University, Eslam Abad-e-Gharb Branch, Iran

\* Shahriar Jalili, Corresponding author

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### **Abstract**

*The present study aimed to investigate the effects of a flipped learning model on English as Foreign Language (EFL) learners' L2 listening comprehension. E-portfolio writing was treated as the pre-class activity in the flipped classroom. To this end, 36 intermediate students from an English institute were chosen based on an Oxford Quick Placement Test (OQPT) and they were assigned to a flipped classroom (experimental group) and a traditional classroom (control group). After running a pretest of listening comprehension, the listening materials were presented to the participants in the flipped classroom through WhatsApp. In contrast, the participants in the control group received the same listening materials inside the class. Socrative was selected as the online platform to assess the experimental group participants. After ten sessions, to elicit data, a post-test on listening comprehension was administered to the participants in both groups to measure their listening comprehension. The independent samples t-test revealed significant differences in learning listening comprehension between both groups in favor of the experimental group. In fact, participants in the flipped classroom group outperformed the control group. Additional research is needed to generalize the findings of this approach across different contexts.*

### **Keywords**

*flipped model, e-portfolio, listening comprehension, blended learning, technology*

## **1. Introduction**

Listening is considered a crucial skill to accelerate the development of language proficiency (Nunan, 2002). Listening skill is required to understand others. It is an active process of receiving,

reconstructing, and responding in interaction with people. Although research has demonstrated that a considerable proportion of people's development in education and their understanding of the world around them depend on listening, it has remained one of the most challenging skills for EFL learners (Wills & Guo, 2006). According to Richards and Renandya (2002), traditional teaching methods like Grammar-Translation, the Audio-Lingual method, and even Communicative Language Teaching give students few chances to listen actively. Similarly, research showed that traditional teaching methods and techniques are still prevalent in many Iranian schools (Etemadfar et al., 2020). In this respect, Sarani et al. (2014) argued that listening has been significantly undermined at the expense of reading and writing, and it has mainly developed incidentally.

The use of technology or other techniques to engage pupils in class activities may improve their listening abilities. As a result, it is not unexpected that research is always looking for fresh and efficient approaches to help students develop their listening abilities. Flipped education is one of the methods that came into being as a result of technological advancement. Given that numerous scholars have recently endorsed the flipped paradigm, it is critical to look at how it affects language learning (Hashemifardnia et al., 2018). In this form of education, students complete projects, homework, and other activities in the classroom while teachers instruct and counsel them outside of school. Teachers introduce new material to students via PowerPoint or video lectures outside of the classroom, while students participate in a variety of group and one-on-one activities inside the classroom. Interactions between students and teachers, as well as online resources and activities, set flipped learning apart from traditional instruction. The flipped approach has the great potential of allowing teachers to ask questions, explain concepts, and engage students in a variety of tasks and activities by effectively and intentionally allocating class time. Learners are additionally urged to reflect on their own learning and evaluate their achievements.

Furthermore, the portfolio has enhanced autonomous learning and language learning in EFL/ESL education (Nhi, 2018). A portfolio is defined by Pourdana and Tavassoli (2022) as an array of students' written scripts that were selected over time and supported by self-reflective journals. It provides an archive for storing artifacts and recordings of student activities. The portfolio enables teachers and students to identify a student's strengths and weaknesses. The utilization of electronic or "e-portfolios" as digital tools to store, upload, and manage students' digital artifacts and assignments to demonstrate their learning progress and to make their achievements more shareable, effective, and efficient has become more prevalent in recent years as compared to paper-based portfolios (Kusuma et al., 2021). E-portfolios offer an even greater number of options and facilities than paper-based portfolios, including the ability to incorporate visuals, sounds, and movies besides easy accessibility, portability, and immediate feedback. E-portfolios require planning, idea synthesizing, and the exchange of viewpoints on performance (Waland & Shaw, 2022). E-portfolios are dynamic as they receive continuous modification in structure as a result of learner reflection and teacher feedback. In an attempt

to improve the quality of their electronic portfolios, students are in constant interaction with their instructors and fellow learners while writing them (Bolliger & Shepherd, 2010).

Evidence supporting the use of electronic writing materials in second language learning is still unknown and understudied (Barrot, 2021). In addition, the impact of electronic information on listening comprehension in flipped learning is still unclear as previous studies have focused on portfolio in reading, writing, and speaking (Cong-Lem, 2019). To avoid gaps in the data, the researcher decided to create a flipped model with an e-portfolio written based on his previous work in the class. Indeed, in the current flipped classroom, portfolio writing was a strategy for engaging students in self-directed learning. Therefore, in this study, it not considered as a separate variable, but as a part of the flipping model.

The information obtained from this study will be useful to other researchers and teachers on the effectiveness of electronic devices. Therefore, this study aims to investigate the effect of electronic portfolio on the listening perception of English learners in a flipped classroom. The following question was asked to guide the investigation:

Q: Does flipped learning model significantly affect the Iranian intermediate EFL learners' listening comprehension?

## **2. Method**

### *2.1 Participants*

A total of 36 Iranian EFL intermediate students from private English schools participated in this study. The Oxford Placement Test (1st edition 2001) is designed to assess a participant's English language proficiency. Participants received the paper version of the OPT test, and those who scored 30-37 (B1) were selected. Participants were divided into experimental group (flipped group) and control group (normal group). The experimental group was instructed how to prepare their electronic data. Both courses were taught by the same teacher, who was a university specialist in English as a Foreign Language (TEFL).

### *2.2 Instruments*

#### *2.2.1 Oxford Placement Test (2001)*

The oxford placement test developed by Oxford University Press was employed to determine the participants' language proficiency. The test had sixty multiple-choice items including twenty grammar items, twenty vocabulary items, and twenty cloze test items. The reliability of the test was measured to be  $\alpha=0.76$  as indicated by Cronbach's Alpha coefficient.

#### *2.2.2 Listening Comprehension Test*

A researcher-made pre-test consisting of 24 multiple-choice tests was administered to compare the performance of subjects prior to the treatment to realize the participants' listening comprehension level. A modified version of the pre-test was used for the post-test to investigate the probable effects of the flipped model on participants' listening comprehension skill. The time duration of the test was 30

minutes. The initial form of the listening test included 48 multiple-choice items. After the listening test had been piloted on a similar group, 24 items were selected based on item analysis. The formulas offered by Brown (2004) were used to check item facility (IF), item discrimination (ID), and distractor efficiency. Therefore, too difficult and too easy items were removed. The reliability index was found to be  $r = .894$  as calculated through the Cronbach Alpha formula.

The test consisted of three parts: First, students must listen to five short recordings and answer five multiple-choice questions. Second, they listened to a radio interview and answer eight fill-in-the-blank items. Part three included two sections: the first section consisted of six matching questions that required the participants to choose six items out of seven items. In the second section, the participants had to answer five true/false questions. The tests were reviewed by two teachers to prove the validity of the content of the tests.

### 2.2.3 Procedure

The same TEFL teacher instructed in both the regular and flipped classrooms. Two days before to each lesson, the teacher shared video and audio recordings of the lesson's explanations on the WhatsApp platform. Research demonstrated that WhatsApp is a suitable tool for sharing content and providing a learning environment (Nguyen & Fussell, 2016), WhatsApp was chosen as an instant messaging application. The researcher employed an additional mobile app called Socrative for assessing the extent to which participants engaged with the course's material. It was selected because research studies suggested that Socrative was popular with both instructors and pupils (Rae & O'Malley, 2017).

Before treatment, the teacher informed the participants about the Flipped model's target listening sub-skills and techniques, as well as the study's portfolio writing. He additionally demonstrated to them how to use online platforms to access their assigned listening documents and save an electronic copy of their portfolios. The steps in the portfolio are included following. First, the students had to listen to a British Council for Learners podcast and generate a transcription. They were then asked to summarize the text's topic.

Students were supposed to focus on listening sub-skills such as the main idea, details, cause and effect of events, and meaning of unknown terms while summarizing the text. Next, students were required to write a reflection on what they had learned and the difficulties they came across, and they also had to offer two questions for further discussion. Finally, they were to save a copy of their transcription, reflection, and summary to Google Drive on their smartphones and share their portfolios with their teacher in WhatsApp. To ensure that learners have studied the required materials, the teacher utilized a Socrative online quiz containing five multiple-choice questions.

Inside the classroom, students were encouraged to ask questions and clear up any misconceptions. Then, using teacher-directed questions, students continued having a discussion on the problem. Participants were urged to ask and answer questions concerning the audio/video files. The aim of such activities was to encourage the students to try out what they had practices at home.

Students were asked to remark on inside-class events and write their personal ideas and insights on the flipped class activities for each session as a follow-up exercise. Students were required to include the teacher's assessment of their accomplishments in their portfolios. If the participant still had issues at home, they may enter into an online private chat with the teacher via WhatsApp and receive tips to improve the quality of their portfolios.

The identical audio/video files used in the flipped classroom were presented to participants in the non-flipped classroom without previous preparation. First, the teacher discussed the audio file's contents. Then he wrote a few new terms or phrases on the board. Finally, students listened to the file once more and answered to comprehension questions. Students were tasked with summarizing the text for the following session. In the last session, both groups took the listening post-test.

### 3. Result

The researcher applied an independent sample t-test to see the possible difference between the experimental group and the control group in terms of listening comprehension. In this study, flipped learning model was the independent variable, and listening comprehension was the dependent variable. Before analyzing the pre-and post-test scores of the experimental and control groups, the One Sample Kolmogorov-Smirnov test of normality was run on the data to check the distribution normality of data. The results are presented in Table 1.

**Table 1. One Sample Kolmogorov-Smirnov Test of Experimental/Control Groups**

Groups	<i>Kolmogorov- Smirnov</i>		
	Statistic	Df	Sig.
Experimental pre-test	.30	18	.18
Experiment post-test	.26	18	.19
Control pretest	.26	18	.07
Control post-test	.21	18	.09

As shown in Table 1, the pre-test and post-test scores of experimental and control groups were normally distributed ( $p > 0.05$ ). Thus, the Independent Samples t-test could be used as a parametric test to analyze the data.

Table 2 shows the descriptive statistics of the pre-test of the experimental and control groups. The mean scores of both groups were almost equal. The mean score of the experimental group in the pretest was 12.07 and the mean score of the control group was 12.23. This means that they were homogeneous at the beginning of the treatment.

**Table 2. Descriptive Statistics of Control/Experimental Groups pre-Test**

Groups	<i>N</i>	Mean	SD	Std. error of mean
Control	18	12.23	1.30	.36
Experiment	18	12.07	2.62	.72

Table 3 shows the descriptive statistics of the post-test of the experimental and control groups. The mean scores of both groups were different. The mean score of the experimental group in the post-test was 17.38 and the mean score of the control group was 13.26. This means that the experimental group outperformed the control group in the post-test.

**Table 3. Descriptive Statistics of Control/Experimental Groups Post-Test**

Groups	<i>N</i>	Mean	SD	Std. error of mean
Control	18	13.26	.832	.230
Experiment	18	17.38	.767	.212

As Table 4 presents, because Sig (.42) is greater than 0.05, the difference between the groups is not significant ( $p > 0.05$ ) in the pre-tests. In other words, the results indicated that there was not a statistically significant difference in the pre-test scores of the control and experimental groups.

**Table 4. T-Test for Independent Samples (Listening Pre-Test)**

	Levene's test		<i>t</i> -test for equality of means						
	<i>F</i>	Sig.	<i>t</i>	<i>df</i>	Sig(2tail)	MD	Std. Error difference	95% Confidence Interval of difference	
								Lower	Upper
Equal variance assumed	.65	.425	.189	34	.852	.153	.813	-1.52	1.83
Equal variances not assumed			.178	34	.852	.153	.813	-1.55	1.86

However, as indicated in Table 5, in the posttest, Sig (.004) is less than 0.05. This means that the difference between both groups was significant at ( $p < 0.05$ ). In other words, there was a statistically significant difference in the post-test scores of the control and experimental groups. In fact, the experimental group (flipped) outperformed the control group (conventional) on the posttest.

**Table 5. T-Test for Independent Samples (Listening Post-Test)**

	Levene's test		t-test for equality of means						
	F	Sig.	t	df	Sig(2tail)	MD	Std. Error	95% Confidence Interval of difference	
								Lower	Upper
Equal variance assumed	2.6	1.0	-13.2	34	.004	-4.15	.314	-4.80	-3.50
Equal variances not assumed			-13.2	34.8	.004	-4.15	.314	-4.80	-3.50

#### 4. Discussion

The current study was an attempt to investigate the probable effects of the flipped model on the Iranian intermediate EFL students' listening comprehension. The results of the current study were in line with studies by Amiryousefi (2017) Namaziandost et al. (2019); and Etemadifar et al. (2020). These studies proved that the flipped model improved students' listening comprehension. However, the results of this study contradicted the findings of a few studies. For Example, Fraga and Harmon (2014) concluded that flipped classroom instruction did not affect undergraduate students' word study exam scores. Also, Alhamami and Khan (2019) indicated that each of the traditional and flipped classrooms could similarly enhance the reading skill of level-one students.

Ducker (2013) showed that a listening portfolio was an appropriate device to help students overcome their listening problems. In the same vein, we concluded that compiling e-portfolios could have played an essential role in improving students' listening comprehension in our study. During the study, the teacher observed an interesting development in students' self-assessment. This highlights to the fact that as time went by, the students learned to assess themselves more accurately. Thus, they could have enhanced their listening skill. Due to the dialogic nature of portfolio writing, the students were in constant contact with their teacher and other students, and they had the opportunity to reflect on their own performance as well as the teacher's comments and recommendations. It goes in line with Farrah (2018) that portfolio work accompanied by reflection helps students becomes aware of their language learning. We surmised that the students might have used a listening portfolio for self-assessment and improvement of their listening ability.

In addition, it was surmised that flipped model was responsible for the outcomes of the current study. In the flipped classroom, participants learned the content before class at their own pace. Therefore, they had more time to review and listen to audio and video files outside the class to prepare for online quizzes and inside-the-classroom activities. As concluded by Etemadfar et al. (2020), this might have led to in-depth information processing. This might have been a probable reason for the results of this study. Besides, it can be argued that listening to video files could have enabled the participants to improve their listening comprehension in three ways. First, listening to English native speakers could have made them aware of

the difficulties of understanding English authentic texts. Thus, this might have led them to evaluate their learning from the audio lesson before the class and try harder to strengthen their listening skills. Second, pausing and reviewing the audio or video files could have enabled the participants to analyze and comprehend the texts. Third, features such as facial expressions and gestures could have enabled the participants to comprehend the listening materials better. In this regard, the study by Sarani et al. (2014) confirmed that the use of video files enhanced listening comprehension.

The face-to-face part of the flipped model provided in-class interactive moments that allowed students to work with other students through brainstorming, collaboration, and peer tutoring. As Yesilçınar (2019) claimed, this face to face activities and discussions could have enhanced knowledge and skill development. Inside the classroom, the teacher could capitalize on the learners' preparation and provide opportunities for applying their knowledge via student-centered strategies such as performing peer-and small-group activities. This point was confirmed by Hosseini (2013) who believed that students exchange ideas and strategies with other classmates to enhance their comprehension of the listening materials. The students who serve as tutors to their peers with the same cognitive tend to improve their declarative and procedural knowledge.

Another reason that might have led to the positive results of the current research was the use of assessment as a learning tool in the flipped model. In our flipped classroom, the assessment provided opportunities for participants to demonstrate their language knowledge and at the same time measure their proficiency level. This is aligned with Pourdana and Tavassoli (2022) who argued that among different alternatives of assessment for learning, research demonstrated that a portfolio has a great potential to generate learning. Portfolio writing helped students discover their learning gaps, and took full responsibility for their own learning. At two points in our flipped classroom, the participants were led to engage in assessment for learning which required students to perform a task instead of selecting an answer: 1) before-class assessment that included portfolio writing, 2) in-class assessment which included discussions, peer feedback, and teacher assessment. Grounded in the social constructivism model of learning, portfolio writing and in-class activities accompanied by peer evaluation and self-reflection could have enabled the participants to construct the knowledge of the language for themselves. Through both types of assessments, the participants could demonstrate their ability to evaluate, analyze, synthesize, and apply what they have learned based on the contents of the video or audio files. In return, the teacher helped the students clarify knowledge and misconceptions, and identify areas of strength and development. Besides, the teacher suggested appropriate remedial materials to compromise for areas of difficulty. Thus, it was surmised that portfolio writing and in-class engagement might have led to the enhancement of students' listening comprehension. The students could reflect on what they were performing at home. Piolat et al. (2005) argued that these reflection practices enabled language learners to learn how to concentrate on and extract meaning in their words and connect it to their existing schema.

In the current study, our objective was to investigate the effect flipped learning model on the listening comprehension of Iranian EFL learners. To this end, portfolio writing was incorporated as a pre-class



activity into the flipped learning model. There were significant differences between the mean scores of the students in the experimental and control groups regarding listening comprehension skills. The researcher concluded that the flipped model had a significantly positive impact on the participants' L2 listening comprehension. Additionally, the current model increased the students' engagement and responsibility and created more opportunities for individualized and self-directed learning.

Based on the result of the present study, the researcher recommends incorporating an e-portfolio into flipped classrooms for enhancing EFL learners' listening comprehension. Also, he recommends providing students adequate opportunities to listen to authentic materials, and engage in active learning instead of listening passively in the class. From a pedagogical perspective, the present study illuminates the importance of student-centered learning environments that encourage active participation in the classroom. It also sheds light on the role of technology to facilitate better active learning in pedagogical practices. Also, it is important to know that L2 learners can benefit from engaging in pre-class activities such as portfolio writing since it enhances their ability to think critically and construct knowledge. The importance of pre-class activities (portfolio writing), discussion, and other learner-centered activities inside the class as well as the quality and duration of audio and video content need to be considered essential parts of this model.

This study suffers from several limitations that other researchers need to take into consideration for future research. First, because the sample size was small, any generalization should be made with caution. Second, gender was not taken into account as a variable affecting the findings of this study. Therefore, future research may need to consider the probable impact of gender in flipped listening classrooms. Third, the present was conducted among intermediate learners. It may be desirable to conduct this study with a different language proficiency level. Finally, the duration of the current study was short. It would be a good idea to extend the study over a longer period of time.

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