

## Role of Flipped, Blended, and Conventional Learning Environments on Developing Pronunciation of EFL Learners Using ELSA Apps

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### Abstract

The current study aimed at considering the effects of flipped, blended, and conventional classes on developing pronunciation features among Iranian EFL learners. It also investigates the role of the ELSA app in flipped, blended, and conventional classes. For this purpose, a total number of 120 pre-intermediate EFL learners (boys and girls) were chosen to take part in the study. They were divided into different classes including flipped, blended, and conventional classes. According to the results of this study, flipped classes was more effective in terms of improving students' pronunciation compared to blended and conventional classroom. Also, based on the results, the blended method was the second method that had the highest efficiency among the three. Overall, it was concluded that using flipped and blended methods could be effective in terms of enhancing the level of pronunciation among students and they need to be taken into consideration by material developers, designers, and teachers.

**Keywords:** Blended classroom; Conventional classroom; Flipped classroom; Pronunciation ability; Pre-intermediate students

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### 1. Introduction

The use of technology as a tool to assist language learning/teaching has become impossible to avoid (Abduh, 2019). Mobile Assisted Language

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Learning (MALL) these days is an efficient and powerful means in the language learning procedure. Learners can get a great deal of information and learning curricula by using smartphones anywhere and anytime. BYOD (bring your device) approach allows learners to participate in different curricula. Furthermore, it is assistance for the teachers to inspect the troubles of different students and their special language backgrounds. Mobile technologies are more interesting for students who are acquiring a second language because of the widespread availability of mobile phones and the larger accessibility of mobile techs. MALL makes it possible for learners to have unlimited access to learning applications that can be used individually and collaboratively (Bahari, 2021). One of the most popular uses of mobile apps is to improve speaking particularly pronunciation by using pronunciation apps. The use of English pronunciation apps can assist EFL learners to be more involved, active, and enthusiastic. They also encourage students to conduct their self-study (Haryadi & Aprianoto, 2020).

Integrating mobile devices into a foreign language learning environment through flipped, blended, and conventional learning experiences can be outstanding. In the flipped classroom model, the delivery of content is usually obtained through online apps prepared by the teacher. Students can practice the assigned instructional apps by themselves before class which can be operative in making the learning process begins before the class.

Blended learning merges physical class techniques with computer-assisted activities to shape a unique instructional approach (Tayebinik & Puteh, 2013). In other words, “blended learning,” or “hybrid learning,” is a mixture of face-to-face and e-learning actions where computer-assisted conduct is used instead of attending the physical class. The word “blend” may consist of online debates, lectures, conducting studies, and learner replies to a recording or a video.

Conventional classes are those that are held in physical classrooms and completely controlled and taught by the teacher. These types of classes are teacher-centered. Students are sitting on their chairs as they listen to their teacher. New technologies aren't used in these classes and the teaching and learning are just based on textbooks and the teacher's knowledge.

The use of technology-assisted applications reduces learner anxiety and enhances nonlinear dynamic L2 motivation that differs from one learner to another by offering a variety of pronunciation assessment tools and devices through different platforms accessible by cell phones (Bahari, 2021). Students can improve their pronunciation accurately by using

ASR, i.e., automatic speech recognition (Dai & Wu, 2021). The effectiveness of automatic speech recognition in teaching pronunciation facilitates language learning at an individual level rather than a group level (McCrocklin, 2014).

Despite our knowledge of the efficacy of mobile-assisted speech recognition apps on developing pronunciation features, there is a gap in research comparing their effects in three EFL learning environments (flipped, blended, and conventional classes). This study will bridge this gap in the related literature by conducting research in these different EFL learning environments.

Thus, the present research addressed the following questions:

RQ1: Is there a significant difference among flipped, blended, and conventional learning environments in terms of developing pronunciation features of EFL learners?

RQ2: Is there a significant difference among flipped, blended, and conventional learning environments in terms of developing pronunciation features of EFL learners who rely on ELSA apps?

The present study will also test the following null hypotheses:

H01: There is no significant difference among flipped, blended, and conventional learning environments in terms of developing pronunciation features of EFL learners.

H02: There is no significant difference among flipped, blended, and conventional learning environments in terms of developing pronunciation features of EFL learners who rely on ELSA apps.

## **2. Background of the study**

The flipped classroom environment is one in which active learning methods are used (Betihavas et al., 2016). Its conceptual foundations are based on simply not teaching the lessons in a classroom environment but on student-centered learning theories (Piaget, 1971; Vygotsky, 1978). In a flipped classroom, the teacher prepares lesson content on the internet and students find them in extracurricular time, and they gain lesson content.

Anderson (2012) organizes two main components of the flipped classroom model as educational technology and activity learning which improve learning in a variety of essential ways). When a classroom is flipped via the applications of digital technology out-of-class, it offers the opportunity for strategic collaborative in-class learning activities, that enhance and promote the learning environment. Furthermore, the technology used enhances and influences the learning environment, therefore, a flipped cycle of learning will be created (Anderson, 2012)

Along with Fraga and Harmon (2014), the flipped classroom model covers a variety of main learning theories, for instance. Piaget's (1971); Vygotsky's (1978) and Engestrom's (1987) theories:

Piaget's (1971) Developmental theory expresses that collaborative learning where strategic activities will actively engage students promotes opportunities for students to learn at a different stage (Piaget, 1971; Murphy, 2015, p.1).

Vygotsky's (1978) Socio-constructivist theory indicates that learning through social interactions helps students become actively independent in their learning via group study, through ZPD and scaffolding (Lightbown, & Spada, 2011; Mahn, 1999).

Engestrom (1987) in his social-cultural activity theory modifies Vygotsky's (1978) Soviet tradition into Learning by Expanding Activity Theory. His theory is like Vygotsky's ZPD but students learn collectively as opposed to individual learning i.e collective results will be generated (Engestrom, 1987). Additionally, Muilenburg (2013) declares that it is essential that where students do not complete assigned homework new class cultures must be established regarding students completing online tasks within the environment; emphasizing the importance of doing so when the classroom is flipped until students get used to the new structures of flipped learning and taking responsibility for their learning.

Meanwhile, a 2015 meta-analysis around blended learning looked historically back at the review of evidence-based research studies and defined blended learning as a combination of online modes of learning with face-to-face modes of instruction where student achievement was higher in blended learning experiences as compared to either fully online or fully face-to-face learning experiences (Siemens, Gašević, & Dawson, 2013).

### **3. Related Studies**

Yujun Zeng (2021) researched using flipped classroom model controlled by lots of information and neural network in oral English tutoring. He utilized flipped classrooms, lots of information, and neural network technology to teach college oral English classes, with the aim of recognizing if the flipped classroom model can assist students to promote their oral English skills and self-learning ability, and also inspecting learners' views about the flipped classroom pattern.

A study by Ohkawa et al. (2018) aimed to expand a pronunciation app that conducts students' progressive language acquisition. It supplies short but a variety of practices as reviews for classroom pedagogies according to the micro-learning. They did a blended learning, which includes both a

physical classroom environment and home homework in online acquiring, for Chinese language courses. In this blended learning, learners could practice based on the main curriculum. Anyways, they discovered that the original app has many troubles to be solved to administer influencing exercises according to the micro-learning.

A study on Using Facebook in Blended Learning in Vietnamese Undergraduates Another study was on students by Huong et al. (2019) who inspected using Facebook as a pedagogical means of blended learning environment on English pronunciation teaching and learning activities. They chose 30 English language learners from the Thai Nguyen University of Education. They put the students into two groups: the experimental group and the traditional group. To accumulate information they used a mixture of qualitative, quantitative, and experimental techniques. This lets the researcher manage a transformation in learners' pronunciation competence and their views toward a blended format. The findings showed that Facebook retains excellent properties to suggest a professional online course for English pronunciation learning, like live lectures, group debates, schedule happenings, and so on. In addition, Facebook can help teachers to control the students' self-study. What they mention was that the utilization of Facebook remains restricted in the way of conducting English pronunciation activities, and when putting it into blended learning, the model manages these problems and restrictions. In the present study, the researchers tried to find out whether the implementation of the ELSA App in a flipped, blended, and conventional environment has any influence on the students' improvement of pronunciation.

## **4. Method**

### **4.1. Participants**

The study was administered among 120 male (n=60) and female (n=60) pre-intermediate EFL learners taking language courses in private language schools. We put the participants into the control groups (conventional instruction), experimental groups, flipped instruction, and blended instruction groups, randomly. The study was conducted in three different environments; flipped, blended, and conventional classes to find out about the possible relationships and dissimilarities among the members of the groups according to developing pronunciation features. The participants were selected based on convenient sampling. They were randomly assigned to each of these environments after they were homogenized based on their language skill.

## **4.2. Instruments and Materials**

### **4.2.1. Topnotch book 1B**

Topnotch 1B book was used as the classroom material in this study in all our three classes (Flipped, blended, and conventional class) for sixteen sessions and each session took one and a half hours.

### **4.2.2. ELSA app**

ELSA (English Language Speech Assistant) is an application that helps a learner improve his pronunciation. It allows the learner to record his voice and compares it with the native speakers of English. It can help the student to improve his English pronunciation by using different strategies like correcting mistakes, comparing his pronunciation with the English native speakers and giving him a score, and so on. It also provides lessons at different levels (beginner, intermediate and advanced).

## **4.3. Procedures**

The study adopted a mixed methods approach and the design emphasis was on QUAN + qual (explanatory) the design timing was sequential and the data collection was done through pronunciation pretest-posttest in three different groups flipped, blended, and conventional groups.

In a session, students were taught how to use ELSA speak application, record their voice and compare it with the native English speakers in the flipped and conventional classes. Then, students took part in 8- session- of class, and each session lasted for one and a half hours. The first two groups could do the practices and dialogues with the app and get feedback besides the regular teaching. They were permitted to use the app both at home and when they were in their class time.

In blended learning, the collaboration between in-class or face-to-face education with online learning was arranged and students were faced with an educational approach that combined traditional teaching methods in a classroom setting with eLearning technology as students listened to an online Elsa app that was shared through the LMS system. Here, students had more opportunities to get meaningful learning experiences and to use critical thinking skills. It also promoted retention in students and increases their commitment to their educational goals. The teacher throughout the course tried to increase flexibility and personalization as well as one-on-one student interactions. Meanwhile, learner's characteristics and learning experiences are taken into account to promote engagement that leads to desired pronunciation

In contrast, in a flipped classroom, the instructor permitted students to use the app at their own pace, and in-class teaching assisted in practicing the concepts learned. Indeed, in the flipped classroom, students first

studied the ELSA app at home, then learned how to implement what they learned in the classroom setting. In other words, they reviewed ELSA app materials and texts and participated in discussions in class or performed as much as practice needed at home. Here, peer instruction as a major role in the classroom learning environment avoiding the wrong conclusions students may face based on what they are learning and then negatively influencing other students. Throughout the course, the teacher tried to create an optimum learning environment with a flipped classroom as he engaged students in learning material and lectures. He also created a balance between online work and in-class activities, making sure not to overwhelm the student.

For the third group, the conventional teaching role was applied as the material course of the ELSA app was first taught, and then homework was assigned. The teacher tried to find out what problems his students had and he listened to them talking to each other and got them to pronounce a text aloud for the class and noted down the problems they had with their pronunciation. He also got students to pronounce the words chorally in class copying his pronunciation or one from an ELSA app. He gave students a list of words and asked them to use an online dictionary to find the stress. Students could check with a partner before they elicited the right answers, Then, they pronounced the words and sentences aloud and recorded them on their smartphones. And students could share their recording with a partner or just read it to their partner if they don't want to record it. Throughout the exercises, the teacher asked students what things they said wrong and if they could say any of the words better.

#### **4.4. Data Analysis**

The present study aims to find out the implementation of the ELSA app on the EFL students' pronunciation in different environments such as flipped classrooms, blended classrooms, and conventional classrooms. The production tests of each sound were compared using Post Hoc ANOVA techniques for any significant mean differences. The post hoc test was used after the researchers found a statistically significant result and needed to determine where the differences came from. The results of the study explored the potential of the ELSA app in the flipped classroom as it helps foreign language learners improve their pronunciation.

#### **5. Results and discussion**

The presentation aimed to discover the impact of the learning environment on developing pronunciation of EFL learners, and it also explored the EFL learners' attitude toward the efficacy of speech

recognition apps in developing pronunciation features in different learning environments. The data were analyzed through one-way analysis of covariance (one-way ANOVA), and descriptive statistics.

Table 1 displays the Skewness and Kurtosis indices and their ratios over the standard errors. Since these ratios were lower than +/- 1.96, it was concluded that the assumption of normality was retained on the pretest and post-test of pronunciation. It should be noted that the ratios of Skewness and Kurtosis over their respective standard errors are analogous to z-scores which should be compared against the critical values of +/- 1.96 at .05 levels (Field, 2018).

Table 1  
*Descriptive Statistics; Testing Normality of Pretest and Posttest of Pronunciation*

Group		N	Skewness		Kurtosis			
			Statistic	Std. Error	Ratio	Statistic	Std. Error	Ratio
Flipped	Pretest	20	-.355	.512	-0.693	-.743	.992	-0.749
	Post-test	20	-.416	.512	-0.813	-.829	.992	-0.836
Embedded	Pretest	20	-.132	.512	-0.258	-.370	.992	-0.373
	Post-test	20	-.226	.512	-0.441	-.948	.992	-0.956
Conventional	Pretest	20	-.132	.512	-0.258	-.370	.992	-0.373
	Post-test	20	.011	.512	0.021	-.718	.992	-0.724

The first research question aimed at exploring the effect of learning environments; i.e., flipped, blended, and conventional groups' performance on pronunciation tests. A one-way analysis of covariance (ANOVA) was run to compare the three groups' means on the post-test of pronunciation. Besides the assumption of normality which was discussed in Table 1, one-way ANOVA has three more assumptions; i.e. homogeneity of variances of groups, linearity, and homogeneity of regression slopes. The results will be discussed below.

First; the analysis of ANOVA indicates that the three groups enjoy homogeneous variances. The non-significant results of Levene's test indicated that the assumption of homogeneity of variances was retained on the pronunciation test ( $F(1, 116) = .218, p > .05$ ).

Second; the result of ANOVA shows that there is a linear relationship between the dependent variable in the post-test of pronunciation and the pretest. The significant results of the linearity test ( $F(1, 106) = 6.63, p < .05, \eta^2 = .099$ ) indicated that there was a linear relationship between the pretest and post-test of pronunciation.

The descriptive statistics for the three groups on the post-test of pronunciation showed that the flipped group ( $M = 31.01, SE = .105$ ) had the highest mean on the post-test of pronunciation. This was followed by



the blended ( $M = 29.53$ ,  $SE = 1.5$ ) and conventional ( $M = 26.78$ ,  $1.05$ ) groups' results.

Based on the results of post hoc comparisons, it can be concluded that there was a significant difference between flipped and the other groups' means. The flipped group ( $M = 31.01$ ) outperformed the blended group ( $M = 26.78$ ) on the posttest. But more significantly outperformed the conventional group on the posttest of pronunciation ( $MD = 4.22$ ) and ( $p < .05$ ).

The second research question aimed at exploring the role of pronunciation apps in different learning environments; ie. flipped, blended, and conventional. The analysis of ANOVA can help to compare the three groups' means on the post-test of pronunciation.

The results of the current study indicated that flipped environment was more beneficial in improving students' pronunciation and that the use of the ELSA application is more effective in improving pronunciation in flipped learning classes as compared to flipped and conventional classes. The flipped group ( $M = 37.01$ ,  $SE = .105$ ) had the highest mean on the post-test pronunciation. This result was followed by the next results on the blended ( $M = 25.53$ ,  $SE = 1.5$ ) and conventional ( $M = 11.78$ ,  $SE = 1.05$ ) classes. It is remarkable to mention that the results of the present study are in line with previous studies in which the role of flipped teaching method in speaking ability and pronunciation was significant (Zeng, 2021; Ohkawa et al., 2018). Thus, this study can provide a path for further research on whether the use of pronunciation apps has any significant role in pronunciation improvement in flipped learning classes or not.

## **6. Conclusion**

The principal objective of the present study was to consider the effects of using ELSA apps on developing pronunciation features among Iranian EFL learners in flipped, blended, and conventional classes. According to the result of the present study, it was found that flipped teaching method was more effective in enhancing the participants' pronunciation ability than the blended and conventional and the role of the ELSA app in the former teaching environment was more outstanding than the other two classes. By considering the results of the present study, it seems that focusing on flipped blended teaching methods in which students have access to technology can remarkably increase the quality of students' pronunciation. On the other hand, by looking at the results of conventional classes, the researcher identified that focusing only on classroom material cannot be effective enough in improving students' pronunciation ability. Overall, it can be concluded that teaching methods which focus on

technology and app facilities can be effective in improving students' language learning and these methods should be more considered in new language classrooms.

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