The Effect of Virtual Flipped Classroom on Speaking Proficiency In Grade Nineth EFL Learners of High Schools

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Abstract

The present study investigated the effect of virtual flipped classroom instruction on the speaking proficiency of Grade Nineth EFL learners in Iran. The study focused on two dimensions of speaking proficiency, namely accuracy and fluency, and compared virtual flipped teaching with flipped classroom instruction. The participants were 50 female ninth-grade high school students in Qom who were selected from an intermediate proficiency level and divided into two groups of 25 students. The virtual flipped group received instruction through SHAD, while the second group received flipped classroom instruction. The treatment lasted for 16 sessions over 10 weeks. The General Oxford Placement Test was used to determine participants' proficiency level, and the Cambridge ESOL Speaking Test was administered as the pre-test and post-test. The findings showed that virtual flipped teaching significantly improved students' speaking accuracy, while the change in fluency was not statistically significant. The results also indicated differences between the effects of virtual flipped and flipped classroom instruction on speaking performance. The findings have implications for English teachers and syllabus designers.

Keywords

Virtual flipped classroom, Flipped classroom, Speaking proficiency, EFL learners, Speaking accuracy, Speaking fluency, Grade Nineth students

Introduction

The rapid development of technology has brought significant changes to educational systems and has created new opportunities for improving teaching and learning processes. In recent years, the integration of digital technologies into language education has encouraged teachers to employ instructional approaches that provide learners with greater flexibility, interaction, and responsibility for their own learning. One of these approaches is the flipped classroom, which reverses the traditional sequence of instruction by providing learning materials to students before class and using classroom time for interaction, practice, problem-solving, and other learner-centered activities. This approach can provide students with opportunities to review instructional materials at their own pace and can allow teachers to devote more classroom time to individual support and communicative activities.

The importance of innovative approaches becomes particularly evident in foreign language education, where learners need sufficient opportunities to use the target language rather than merely study its grammatical structures and vocabulary. Speaking proficiency is one of the central components of communicative competence because learners are expected to express ideas, respond to others, participate in conversations, and communicate meaning effectively. However, in many traditional English as a Foreign Language (EFL) classrooms, limited classroom time, teacher-centered instruction, insufficient speaking practice, and students' fear of making mistakes may restrict opportunities for meaningful oral communication. Therefore, creating learning environments in which students can repeatedly practice speaking and receive appropriate feedback is an important concern in EFL education.

The virtual flipped classroom combines the principles of flipped learning with online and digital learning environments. Through this approach, students can access instructional materials outside the traditional classroom and use virtual or face-to-face sessions for communicative practice and interaction. Digital materials may include instructional videos, audio resources, presentations, exercises, and other learning activities that students can review according to their individual learning pace. In this environment, classroom or virtual meeting time can be devoted more extensively to speaking activities, pair and group discussions, question-and-answer activities, role-playing, and other forms of oral communication. Such an organization may increase students' exposure to English and provide more opportunities for active participation in the learning process.

For Grade Nine EFL learners, developing speaking proficiency is especially important because students at this level are expected to use their existing linguistic knowledge in more meaningful communicative situations. The use of a virtual flipped classroom may provide these learners with a learning environment in which preparation, interaction, practice, and feedback are integrated into the instructional process. Students can review learning materials before participating in speaking activities, while teachers can focus classroom or virtual-session time on monitoring performance and supporting students when they encounter difficulties. Consequently, examining the effect of this instructional approach on learners' speaking proficiency can provide useful information about

the potential role of technology-supported and learner-centered instruction in foreign language education.

Accordingly, the present study focuses on the effect of the virtual flipped classroom on the speaking proficiency of Grade Nine EFL learners in high schools. By examining this instructional approach in relation to students' speaking performance, the study seeks to contribute to a better understanding of how technology-supported learning environments can be incorporated into English language teaching and how they may create additional opportunities for students to develop their oral communication skills.

Statement of the Problem

English language learning has become an important part of education in many countries, including Iran, where English is taught as a foreign language at different levels of the educational system. Among the four major language skills, speaking has a particularly important role because it enables learners to use English for communication and to express their ideas, feelings, and opinions. However, developing speaking proficiency is often challenging for EFL learners because speaking requires continuous practice, interaction, sufficient exposure to the target language, and opportunities to receive feedback. In traditional English classrooms, limited instructional time and teacher-centered methods may reduce the opportunities available for students to actively participate in speaking activities. As a result, some learners may have adequate knowledge of vocabulary and grammatical structures but experience difficulties when they need to use English orally.

The problem becomes more important for ninth-grade students because they are expected to develop their language abilities through classroom activities that involve communication and active participation. In many conventional classrooms, students spend a considerable amount of time listening to explanations, completing exercises, and studying language structures, while opportunities for meaningful oral practice may remain limited. Speaking proficiency involves several aspects, including accuracy and fluency, and learners need repeated opportunities to practice these aspects in communicative situations. Therefore, English teachers need instructional approaches that can increase students' involvement and provide more opportunities for speaking practice within and beyond the classroom.

The flipped classroom has emerged as an alternative instructional approach that changes the traditional organization of teaching and learning. In a flipped classroom, students are expected to study instructional materials before attending the classroom session, while classroom time is mainly used for practice, interaction, problem-solving, and communicative activities. Previous research has reported positive effects of flipped learning on different aspects of language learning. For example, Tran (2018) reported that flipped teaching could improve EFL learners' speaking performance. Similarly, Gross et al. (2015) found improvements in students' examination performance after implementing a flipped course. These findings indicate that providing learners

with access to instructional materials before class may create additional opportunities for active learning and classroom interaction.

Despite these potential advantages, conventional flipped classrooms may not always provide equal opportunities for learners who face difficulties with attendance, transportation, classroom access, or the availability of sufficient learning time. The development of online educational environments has therefore created the possibility of implementing flipped learning in a virtual context. A virtual flipped classroom combines the principles of flipped learning with online communication and digital instructional materials. In such an environment, students can access videos, audio materials, explanations, and other learning resources before participating in virtual classroom activities. During online sessions, teachers can use the available time for speaking practice, role-play, interaction, and feedback. Saykili (2018) emphasizes the growing importance of distance education and technology-supported learning environments, while Wade et al. (2021) reported that a virtual flipped classroom could increase the use of active learning strategies in a virtual educational setting.

The use of a virtual flipped classroom may be particularly relevant to speaking instruction because speaking development requires active participation rather than passive reception of information. Students can review learning materials before the virtual class and subsequently use the online session to practice speaking. Such an approach may also give learners greater responsibility for their own learning and allow them to review materials more than once before participating in communicative activities. However, the effectiveness of virtual flipped instruction cannot simply be assumed, since students' participation in pre-class activities, access to technological resources, Internet quality, and the duration of instruction may influence the learning outcomes. The previous literature also presents different findings concerning the effects of flipped instruction on speaking-related outcomes, indicating the need for further investigation.

Therefore, the present study addresses the problem of whether virtual flipped classroom instruction can improve the speaking proficiency of ninth-grade EFL learners. More specifically, the study examines speaking proficiency in terms of accuracy and fluency and investigates whether virtual flipped teaching can produce meaningful changes in students' speaking performance. The study also considers the difference between virtual flipped teaching and flipped classroom instruction in relation to students' speaking proficiency. The findings may provide useful information for English teachers and syllabus designers who are interested in integrating technology-supported and learner-centered approaches into English language instruction.

Previous Research

The flipped classroom has received increasing attention as a learner-centered instructional approach in foreign language education. Unlike traditional instruction, in which teachers generally present new materials during classroom time and students complete exercises afterward, flipped learning moves part of the instructional content to the pre-class stage. Students can study videos,

audio materials, explanations, and other resources before the class, while classroom time can be devoted to practice, interaction, collaborative activities, and feedback. This structure has been considered particularly relevant to language learning because it can increase students' opportunities to actively use the target language. Research conducted in different educational contexts has reported positive effects of flipped instruction on students' learning outcomes, although the results have not always been consistent across language skills and learning conditions.

Several studies have investigated the effects of flipped instruction on Iranian EFL learners. Alibeigloo et al. (2020), for example, examined the effect of flipped classroom instruction on the speech-act production of intermediate Iranian EFL learners. The participants received instruction through flipped and non-flipped approaches, and the results indicated that flipped instruction had a positive effect on learners' use of speech acts. This finding suggests that providing students with opportunities to prepare before class and participate in communicative activities during class may support the development of oral language use. Similarly, Hashemifardnia et al. (2021) investigated the effect of flipped classroom instruction on Iranian EFL learners' speaking complexity, accuracy, and fluency. Their findings showed differences between learners' pre-test and post-test performance following flipped instruction, indicating that the flipped approach could contribute to speaking development.

Tran and Nguyen (2018) specifically investigated the effect of the flipped model on students' English speaking performance. Their study reported improvement in students' speaking skills following flipped instruction. This finding is particularly relevant to the present research because it demonstrates the potential relationship between flipped learning and oral language development. In another study, Yesilcinar (2019) examined the use of the flipped classroom to enhance adult EFL learners' speaking skills and reported that the approach could provide learners with additional opportunities to practice speaking. These studies indicate that the flipped classroom can create conditions in which classroom time is used more intensively for oral communication rather than being primarily occupied by teacher explanations.

Other research has focused on students' engagement, motivation, attitudes, and other aspects of language learning. Afzali and Izadpanah (2021) investigated the effect of the flipped classroom on Iranian EFL learners' engagement and motivation in learning English grammar. Their quasi-experimental study indicated better performance among learners who experienced flipped instruction. Namaziandost and Tilwani (2020) examined the relationship between the flipped classroom and self-efficacy among Iranian EFL learners and reported changes in learners' self-efficacy following flipped instruction. Afghari, Lotfi, and Vaezi (2019) also examined learners' and instructors' perceptions of flipped teaching in the university context. Their findings showed generally positive perceptions toward the use of flipped teaching for language improvement. These studies demonstrate that the effects of flipped learning may extend beyond direct language achievement and include learners' engagement, attitudes, and perceptions.

Research has also examined specific language components. Izadpanah et al. (2021) investigated the effect of flipped classroom instruction on vocabulary recall and retention among Iranian adolescent EFL learners. Their findings indicated an effect of flipped instruction on vocabulary learning. Ameri-Golestan et al. (2020) examined flipped instruction in relation to grammatical knowledge and found that learners who received flipped instruction benefited from the approach. Rezaei Fard, Shahrokhi, and Talebinejad (2021) also reported positive effects of flipped classroom instruction on vocabulary learning and retention among Iranian ESP learners. Taken together, these studies suggest that flipped learning has been investigated across different dimensions of language development, although speaking remains an important area requiring further investigation.

Virtual flipped classroom instruction represents a further development of the flipped model by combining flipped learning with online and virtual learning environments. In this approach, students receive digital learning materials before the virtual class and subsequently participate in synchronous online activities. Salehi et al. (2020) described the virtual flipped classroom as an approach in which instructional materials are provided digitally before the online class, while the synchronous stage is used for discussion, problem-solving, and learning activities. Parada et al. (2019) similarly emphasized the possibility of using virtual platforms to provide access to learning content before, during, and after class and to support interaction between teachers and learners.

Studies specifically examining virtual flipped classrooms have also produced encouraging findings. Ismail and Shubair (2019) investigated virtual flipped classroom instruction and reported a significant difference in students' learning achievement after the implementation of the approach. Their findings also indicated improvements among lower-achieving students. Wade et al. (2021) examined a virtual flipped classroom in a higher-education context and found that the approach increased the use of active learning strategies and active learning scores. Gupalan (2021) also examined a virtual flipped classroom during remote education and reported that students were able to adjust to the virtual flipped learning environment and complete the course successfully.

However, the literature does not present completely uniform findings. Korkmaz and Mirici (2021) reported that flipped teaching facilitated speaking practice, but their findings did not demonstrate significant improvements in foreign language anxiety or self-regulatory behaviors. In addition, the effectiveness of flipped instruction may depend on the duration of treatment, students' participation in pre-class activities, access to technological resources, and the nature of classroom tasks. The reviewed studies also differ in terms of participants, educational levels, language skills, research designs, and instructional contexts. Consequently, findings from one context cannot automatically be generalized to other groups of learners.

Overall, previous research provides evidence that flipped and virtual flipped instruction can influence different aspects of language learning, including speaking, vocabulary, grammar, engagement, motivation, and learning achievement. Nevertheless, relatively limited attention has been given specifically to ninth-grade Iranian EFL learners and to the comparison between virtual

flipped teaching and conventional flipped teaching in relation to speaking proficiency. The present study addresses this area by examining the speaking proficiency of ninth-grade EFL learners in terms of accuracy and fluency and by comparing the effects of virtual flipped teaching with flipped classroom instruction.

Definition and Importance of the Topic

The flipped classroom is an instructional approach in which part of the teaching process is moved from the traditional classroom setting to the period before class. Instead of receiving all explanations for the first time during classroom sessions, learners study instructional materials such as videos, audio recordings, presentations, and other digital resources before attending the class. Classroom time can then be used for practice, interaction, problem-solving, discussion, and receiving feedback from the teacher. This structure changes the traditional roles of teachers and learners by giving students greater responsibility for preparing for learning activities and allowing teachers to devote more classroom time to active learning (Abuhamid & Mohammad, 2020).

Virtual flipped classroom refers to the combination of the flipped classroom model and a virtual learning environment. In this approach, students receive learning materials through digital devices and online platforms before participating in synchronous virtual sessions. The pre-class stage provides students with opportunities to review instructional content at their own pace, while the synchronous stage can be used for interaction, communication, practice, and teacher guidance. Salehi et al. (2020) explain that virtual flipped instruction involves providing digital educational information before the online session and using the synchronous learning stage for discussion and learning activities. Therefore, virtual flipped teaching can provide continuity between individual preparation and interactive learning.

Speaking proficiency is another central concept in the present study. Speaking refers to the ability of language learners to communicate ideas and messages orally through the use of appropriate linguistic resources. In the context of EFL learning, speaking proficiency involves several dimensions, including accuracy and fluency. Accuracy concerns the appropriate use of linguistic forms, vocabulary, and grammatical structures, whereas fluency is related to the ability to produce spoken language with an appropriate degree of continuity and ease. Because speaking requires active language production, learners need sufficient opportunities to practice and receive feedback rather than relying only on the study of grammatical rules and vocabulary (Nunan, 2003).

The importance of the topic is particularly related to the need for greater opportunities for oral communication among EFL learners. In traditional learning environments, classroom time may be occupied by explanation of language structures and completion of textbook exercises, leaving limited time for individual speaking practice. A flipped approach can change this distribution of classroom time by transferring some instructional explanations to the pre-class stage and creating more time for communicative activities. Tran and Nguyen (2018) found that flipped instruction could improve students' English speaking performance, while Hashemifardnia et al. (2021)

reported positive changes in Iranian EFL learners' speaking performance following flipped instruction.

The virtual dimension of flipped learning makes the topic especially relevant in contexts where students can access instructional materials through computers or mobile devices. Virtual learning environments can allow learners to review materials repeatedly and prepare themselves before participating in speaking activities. In addition, online communication can provide opportunities for voice-based interaction, role-play, discussion, and feedback. Ismail and Shubair (2019) reported improvements in learning achievement following the implementation of a virtual flipped classroom, while Wade et al. (2021) found that virtual flipped instruction increased the use of active learning strategies.

The importance of investigating this topic also lies in the need to examine whether virtual flipped instruction can contribute specifically to the speaking proficiency of ninth-grade EFL learners. Although previous studies have examined flipped learning in relation to different language skills and learning outcomes, the effects of virtual flipped instruction on speaking accuracy and fluency require further examination. The present study therefore focuses on virtual flipped classroom instruction and its relationship with the speaking proficiency of ninth-grade EFL learners, while considering accuracy and fluency as important dimensions of speaking performance.

Discussion

The findings of the present study provide important information about the effects of flipped and virtual flipped teaching on the speaking proficiency of ninth-grade EFL learners. The results showed that the two instructional approaches did not produce the same pattern of development in students' speaking performance. In particular, the findings indicated that virtual flipped teaching had a significant effect on students' speaking accuracy, while the change in fluency was more limited. The results also demonstrated a difference between the effects of virtual flipped teaching and flipped teaching on students' speaking performance. These findings can be discussed in relation to the characteristics of virtual flipped learning and the results of previous studies.

The finding concerning speaking accuracy suggests that virtual flipped instruction can provide useful conditions for students to prepare themselves before participating in speaking activities. In the present study, students received instructional materials through the virtual environment before the synchronous class. They were expected to watch the videos, listen to the explanations, learn relevant vocabulary and expressions, and prepare themselves for role-play and discussion activities. This preparation may have provided learners with greater familiarity with the language forms required for speaking activities. The improvement in accuracy is also consistent with the findings of Ismail and Shubair (2019), who reported significant improvement in learning achievement after the implementation of a virtual flipped classroom. It is also related to the findings of Mahmoudi (2020), who reported significant differences in the performance of Iranian EFL learners receiving online instruction.

The improvement in accuracy can also be interpreted in relation to the greater responsibility given to learners in the virtual flipped model. Students were required to study the instructional materials before the synchronous session rather than depending completely on explanations during class time. This structure gave them the possibility of reviewing videos and audio materials and preparing their responses before participating in speaking activities. Such preparation may have helped students pay greater attention to vocabulary, grammatical structures, and the accurate production of sentences. The findings therefore support the idea that virtual flipped instruction can create opportunities for learners to become more actively involved in their own preparation and language practice.

The findings concerning fluency, however, require a more cautious interpretation. Although students' fluency developed after virtual flipped instruction, the difference was relatively limited compared with the improvement observed in accuracy. One possible explanation identified in the original study is the relatively short duration of the virtual flipped treatment. Speaking fluency generally requires repeated opportunities for spontaneous communication and extended practice. Students may need more time to develop the ability to produce language continuously and naturally without long pauses. Therefore, a limited instructional period may be sufficient to support improvement in accuracy but may not provide enough opportunities for substantial changes in fluency. This interpretation is also consistent with the observation that students sometimes did not complete the pre-class activities, which reduced their preparation for the synchronous speaking sessions.

The findings of the present study are partly consistent with previous research on flipped instruction and speaking. Tran (2018) reported that students improved their speaking skills after receiving flipped instruction. Hashemifardnia et al. (2021) also found positive changes in Iranian EFL learners' speaking performance after flipped classroom instruction. These findings indicate that reorganizing instructional time and providing learners with opportunities for active speaking practice can contribute to oral language development. However, the present findings also demonstrate that the effect of flipped instruction may vary according to the particular dimension of speaking proficiency being measured.

The findings related to virtual flipped teaching are also consistent with Wade et al. (2021), who found that a virtual flipped classroom increased the use of active learning strategies and active learning scores. In a virtual flipped environment, instructional content can be provided before the synchronous session, allowing the online class to concentrate more on active participation. Similarly, Ismail and Shubair (2019) reported positive effects of virtual flipped instruction on students' learning achievement. These studies provide support for the use of virtual environments as a means of extending learning beyond the limited time of the synchronous classroom.

At the same time, the results should not be interpreted as evidence that virtual flipped instruction automatically produces improvement in every aspect of speaking. Korkmaz and Mirici (2021) found that although flipped teaching facilitated speaking practice, it did not produce significant

changes in some other learner-related variables, including foreign language anxiety and self-regulatory behaviors. This difference demonstrates that the effects of flipped learning may depend on the outcome being measured, the characteristics of the learners, the instructional procedures, and the length of the intervention.

An important issue identified in the present study is students' participation in the pre-class stage. The virtual flipped model depends substantially on students' preparation before the synchronous session. If students do not watch the assigned videos, listen to the explanations, or complete the preparation activities, they may enter the speaking session without sufficient background knowledge. Consequently, the potential advantages of the model may be reduced. This issue is particularly important for speaking instruction because successful role-play, discussion, and communicative activities require students to have sufficient vocabulary, language structures, and familiarity with the topic before the activity begins.

The difference observed between virtual flipped teaching and flipped teaching can also be considered in relation to the learning environment. In the virtual flipped model used in the study, both the preparatory and interactive stages were conducted through a virtual environment. This structure allowed students to access instructional materials digitally and participate in speaking activities through online communication. The original study found a statistically significant difference between the two groups in terms of fluency and accuracy, indicating that the two forms of flipped instruction did not produce identical outcomes.

Overall, the findings suggest that virtual flipped teaching can be considered a technology-supported instructional approach for developing aspects of ninth-grade EFL learners' speaking proficiency, particularly accuracy. However, the relatively smaller change in fluency indicates that speaking development may require longer treatment periods, more frequent opportunities for spontaneous interaction, and consistent participation in pre-class activities. The findings therefore highlight the importance of designing virtual flipped instruction in a way that combines adequate preparation, repeated speaking practice, meaningful interaction, and continuous feedback rather than relying only on the provision of digital materials.

Methodology

The present study employed a quasi-experimental research design to investigate the effect of virtual flipped classroom instruction on the speaking proficiency of Grade Nineth EFL learners. The study specifically focused on two dimensions of speaking proficiency, namely accuracy and fluency. To examine the effectiveness of the instructional approach, two experimental groups were considered. One group received virtual flipped classroom instruction, while the second group received flipped classroom instruction. Speaking proficiency was measured before and after the instructional treatment, allowing the researcher to compare students' performance across the two groups.

Participants

The participants of the study were 50 female Grade Nineth high school students in Qom, Iran, who were studying English during the first semester of the 1400–1401 educational year. The students were 13 to 14 years old and had Persian as their native language. Their general English proficiency was considered to be at the intermediate level. In order to determine the participants' level of English proficiency and ensure a reasonable degree of homogeneity among them, the General Oxford Placement Test was administered before the beginning of the treatment. Following the selection process, the participants were divided into two groups of 25 students. The first group was assigned to the virtual flipped classroom condition, and the second group participated in the flipped classroom condition.

Materials and Instruments

Several materials and instruments were used for data collection and instruction. One of the main instructional materials was SHAD, which was used as the virtual learning environment. The platform provided opportunities for teachers to deliver instructional content and communicate with learners through voice calls and voice messages. Video clips, podcasts, and vodcasts were also used to introduce and reinforce the speaking materials. These resources enabled students to review the lesson content before participating in the instructional activities.

Prospect 3 and its accompanying workbook were also used as the main course materials. The textbook included seven lessons, and each lesson contained different components such as conversation, practice, language melody, grammar, listening, speaking, and role-play. The speaking and role-play sections were particularly important because they provided opportunities for students to practice the language through communicative activities.

The General Oxford Placement Test was used to determine the participants' language proficiency and establish their homogeneity before the treatment. The test included sections related to the use of English and listening and provided an overall indication of learners' language ability. Standardized placement testing has also been used in EFL research to select participants with relatively similar proficiency levels before experimental instruction (Izadpanah et al., 2021).

To measure speaking proficiency, the Cambridge ESOL speaking test was administered as both the pre-test and post-test. The test assesses different aspects of speaking performance, including range and accuracy, fluency, interaction, and coherence. In the present study, the analysis concentrated on accuracy and fluency. The speaking test consisted of four parts, with each part lasting approximately three minutes, resulting in a total testing time of about twelve minutes. Taylor (2003) states that speaking ability involves several related competencies, including lexico-grammatical knowledge, phonological control, pragmatic awareness, and cognitive processing.

The operational measurement of fluency and accuracy followed the procedures described in the study. Speaking fluency was calculated on the basis of the number of words produced in relation to speaking time, while accuracy was calculated through the proportion of error-free clauses to the total number of clauses. Speaking time was determined by subtracting silent pauses from the total duration of speech (Jong, 2009; Kormos & Dénes, 2004).

Procedure

The instructional treatment lasted for 16 sessions over a period of 10 weeks, with each session planned for approximately 60 minutes. Before the treatment began, all participants completed the speaking pre-test, and their scores were recorded for later comparison with their post-test performance. During the treatment, the two groups received instruction through different forms of flipped learning.

In the virtual flipped classroom group, the instructional process consisted of two main stages. In the first stage, the teacher provided instructional materials before the virtual class. Video clips, podcasts, vodcasts, and voice explanations were sent to students through SHAD. Students were required to watch the materials, review the vocabulary and language structures, and prepare themselves for the speaking tasks. The second stage took place during the virtual class, where students participated in role-plays, discussions, speaking practices, and other interactive activities. The teacher monitored the activities, provided explanations, and evaluated students' speaking performance.

For example, in a lesson focusing on personality, students received video materials containing conversations related to the topic before the class. They were expected to learn relevant vocabulary and expressions and prepare sentences for communication. During the virtual session, students participated in role-play and discussion activities and used the language they had studied before class.

The second experimental group received flipped classroom instruction. Similar to the virtual flipped group, students were expected to study instructional materials before the classroom session. However, the interactive phase of instruction was conducted through face-to-face classroom activities rather than a virtual environment. Students participated in speaking tasks, role-plays, discussions, and other classroom practices based on the materials they had studied before class.

Data Analysis

After completion of the treatment, the Cambridge ESOL speaking test was administered again as the post-test. The students' pre-test and post-test scores were compared in order to determine changes in speaking accuracy and fluency. Statistical analyses were conducted using SPSS. The Wilcoxon test was used to examine changes between pre-test and post-test scores within the

groups, while the Wald-Wolfowitz test was used to examine differences between the two instructional groups. The statistical analyses were performed for both accuracy and fluency so that the effects of virtual flipped and flipped classroom instruction could be examined separately for the two dimensions of speaking proficiency.

Research Instruments

Several instruments were used in the present study to collect the required data and to provide appropriate materials for the instructional process. The main instruments were the General Oxford Placement Test, the Cambridge ESOL Speaking Test, SHAD virtual learning environment, and the Prospect 3 textbook with its accompanying workbook. Each instrument had a specific function in the study and was selected according to the objectives of the research.

The General Oxford Placement Test was administered at the beginning of the study to determine the participants' English proficiency level and to ensure that the students were sufficiently homogeneous before the treatment. The test included two main sections, namely Use of English and Listening. The Use of English section assessed grammatical knowledge and vocabulary, while the Listening section measured general listening ability. The test provided an overall indication of learners' language proficiency and was used to select participants at approximately the intermediate level.

The Cambridge ESOL Speaking Test was used as the main instrument for measuring students' speaking proficiency. It was administered twice, once as a pre-test before the treatment and again as a post-test after the treatment. The test evaluates several aspects of speaking performance, including range and accuracy, fluency, interaction, and coherence. However, the present study specifically concentrated on accuracy and fluency. The test consisted of four parts, with each part lasting approximately three minutes, resulting in a total duration of about twelve minutes. Taylor (2003) explains that speaking ability involves several interconnected components, including lexico-grammatical knowledge, phonological control, pragmatic awareness, and cognitive processing.

Speaking fluency and accuracy were operationally measured through specific quantitative procedures. Fluency was calculated according to the number of words produced in relation to speaking time, while accuracy was determined by calculating the number of error-free clauses divided by the total number of clauses. Speaking time was obtained by subtracting silent pauses from the total speaking time. These procedures have also been employed in research on oral language production (Jong, 2009; Kormos & Dénes, 2004).

SHAD was used as the virtual learning environment for the virtual flipped classroom group. It provided the opportunity to distribute instructional materials and communicate with students through voice calls and voice messages. Video clips, podcasts, and vodcasts were sent to the students before the virtual class so that they could study the lesson content and prepare for the

speaking activities. The use of digital materials before class allowed the instructional process to follow the two stages of the flipped model: preparation before class and active participation during class (Salehi et al., 2020).

The Prospect 3 student textbook and its accompanying workbook were also used as the main instructional materials. The textbook contained seven lessons, and each lesson included sections such as conversation, practice, language melody, grammar, listening, speaking, and role-play. The speaking and role-play activities were particularly important for the present study because they provided the content and tasks through which students could practice oral communication. The materials were therefore used consistently in both instructional groups, while the main difference between the groups concerned the environment in which the instructional and interactive activities were conducted.

Finally, the instruments and materials were used together to obtain a comprehensive measure of the learners' speaking development. The placement test established the participants' initial proficiency level, the Cambridge ESOL Speaking Test provided pre- and post-treatment measures of speaking proficiency, and SHAD together with Prospect 3 supported the implementation of the virtual flipped instructional procedure. This combination allowed the researcher to examine changes in speaking accuracy and fluency following the instructional treatment.

Limitations and Challenges

The present study encountered several limitations and challenges that should be considered when interpreting its findings. One of the main limitations was the restricted amount of time available for conducting the virtual flipped classroom activities. Although the treatment was planned for 16 sessions over 10 weeks, the virtual speaking activities sometimes required more time than the scheduled classroom period. Students could not always complete their role-plays or speaking presentations within the planned session, and some activities had to be continued in the following session. As a result, the time available for practicing all speaking activities was limited. The relatively short duration of the treatment may also have influenced the development of fluency, because fluency generally requires repeated and sustained opportunities for oral interaction.

Another important challenge was students' participation in the pre-class stage of virtual flipped instruction. The success of a flipped classroom depends partly on learners' preparation before the interactive session. Some students might not watch the assigned videos or listen to the teacher's explanations before the class. When students do not complete these preparatory activities, they may enter the speaking session without sufficient background knowledge and may require additional explanation during class. This problem can reduce the amount of time available for actual speaking practice. Previous research has similarly identified students' failure to complete pre-class materials as one of the challenges associated with implementing flipped learning (Johnson, 2013).

Access to technological equipment was another limitation of the study. Not all students necessarily had equal access to suitable devices such as smartphones or laptops, and Internet access could also be a problem. Since the virtual flipped model requires students to receive, watch, and review digital materials before class, differences in access to technological resources can influence their participation and preparation. The digital divide has also been identified as a challenge in flipped learning because students from different socioeconomic backgrounds may not have similar access to computers, Internet connections, or other digital resources (Bergmann & Waddell, 2012).

Technical problems associated with the SHAD environment constituted another challenge. The bandwidth of the platform and the relatively slow transmission of some instructional files, particularly videos, could interfere with the smooth delivery of learning materials. When students experience difficulties receiving or opening instructional content, their preparation for speaking activities may be reduced. Such technical barriers are particularly important in a virtual flipped model because digital materials are an essential part of the pre-class learning stage.

Students' absence from the pre-test and post-test sessions was another limitation. Since some testing activities had to be completed remotely, students needed to be available at the designated time and submit their responses through voice messages. Some students could forget the scheduled time or fail to complete the assessment as expected. This situation created difficulties in collecting all assessment data under identical conditions and could potentially influence the consistency of the measurement process.

The non-random nature of participant selection also limits the generalizability of the findings. The participants were 50 female Grade Nineth students from one high school in Qom, and therefore the findings cannot automatically be extended to male students, students from other grade levels, students in other regions, or larger and more diverse populations. The specific characteristics of the participants and the educational context should therefore be considered when interpreting the results.

Another challenge was the need for students to take greater responsibility for their own learning. Flipped learning requires learners to manage their time, review digital materials independently, and arrive prepared for interactive activities. Students who have weaker self-regulation skills may have greater difficulty maintaining regular participation in the pre-class phase. Research on flipped learning has emphasized that learner preparation and engagement are important factors in determining the effectiveness of this instructional approach (Korkmaz & Mirici, 2021).

Finally, the creation and delivery of appropriate digital materials placed additional demands on the instructional process. Preparing useful videos, podcasts, vodcasts, and voice explanations requires time and effort from teachers. The quality and accessibility of these materials can influence students' understanding and preparedness. Teachers may also need sufficient technological knowledge and training to design and manage digital resources effectively (Thompson, 2016). Therefore, the successful implementation of a virtual flipped classroom requires not only

appropriate technology but also adequate preparation, technical support, student participation, and sufficient instructional time.

Findings

The findings of the present study were obtained from the pre-test and post-test results of 50 female Grade Nineth EFL learners who participated in two experimental groups. The first group received virtual flipped classroom instruction, while the second group received flipped classroom instruction. The students' speaking proficiency was examined in terms of accuracy and fluency. The statistical analyses were conducted using the Wilcoxon test for comparing the pre-test and post-test scores within each group and the Wald-Wolfowitz test for examining differences between the two groups.

The first finding concerned the effect of virtual flipped teaching on students' speaking fluency. The results of the Wilcoxon test showed that the difference between the pre-test and post-test fluency scores of the virtual flipped group was not statistically significant. The obtained Z value was -0.764 and the significance level was .445, which was higher than the .05 significance level. The mean rank values were 11.75 for the negative ranks and 10.54 for the positive ranks. Therefore, the results did not provide sufficient statistical evidence for a significant improvement in speaking fluency after virtual flipped instruction.

The second finding concerned the effect of virtual flipped teaching on speaking accuracy. In contrast to fluency, a statistically significant difference was observed between the pre-test and post-test accuracy scores of the virtual flipped group. The Wilcoxon test produced a Z value of -3.518 with a significance level of .000, which was below the .05 criterion. The results therefore indicated a significant change in students' speaking accuracy following the virtual flipped treatment. The reported mean scores also showed an increase from 7.50 before the treatment to 11.37 after the treatment. This result suggests that the virtual flipped classroom was particularly effective in improving the accuracy dimension of students' speaking performance.

The third finding was related to the effect of flipped classroom instruction on speaking fluency. The Wilcoxon test indicated no statistically significant difference between the pre-test and post-test fluency scores of the flipped classroom group. The Z value was -0.030 and the significance level was .976, which was considerably higher than .05. The reported mean ranks were 7.56 for negative ranks and 8.50 for positive ranks, while 10 students had tied scores. These findings show that the students who received flipped classroom instruction did not demonstrate a statistically significant change in fluency during the treatment period.

The fourth finding concerned the effect of flipped classroom instruction on speaking accuracy. Although the mean score increased from 7.89 before instruction to 11.90 after instruction, the difference was not statistically significant according to the Wilcoxon test. The obtained Z value was -0.981 and the significance level was .326, which was greater than .05. Consequently, the



results did not support a statistically significant effect of flipped classroom instruction on the speaking accuracy of students in the second experimental group.

The fifth finding examined whether there was a difference between the effects of virtual flipped teaching and flipped teaching on students' speaking fluency. The Wald-Wolfowitz test indicated a difference between the performance of the two groups after the treatment. The study therefore rejected the hypothesis stating that there was no difference between the effects of the two instructional approaches on fluency. This finding indicates that the two forms of flipped instruction did not produce identical outcomes in students' speaking fluency.

The sixth finding examined the difference between the two groups in terms of speaking accuracy. The results of the Wald-Wolfowitz test also indicated a difference between the post-test performance of the virtual flipped and flipped classroom groups. Thus, the hypothesis concerning the absence of a difference between the two instructional approaches in terms of accuracy was rejected. The results demonstrate that the type of flipped instructional environment was associated with different outcomes in students' speaking accuracy.

Overall, the findings show that the most noticeable statistically significant change occurred in speaking accuracy in the virtual flipped classroom group. In contrast, neither fluency in the virtual flipped group nor fluency and accuracy in the flipped classroom group reached statistical significance in the within-group analyses. The results therefore highlight a different pattern of development across the two dimensions of speaking proficiency. The stronger change in accuracy may be related to the opportunity students had to review digital materials, study language forms, and prepare their spoken responses before participating in virtual speaking activities. Similar research has reported positive effects of flipped or virtual flipped instruction on language learning outcomes, although the results can vary according to the skill and learning context (Hashemifardnia et al., 2021; Ismail & Shubair, 2019; Wade et al., 2021).

These findings also indicate that improvement in speaking fluency may require a longer period of continuous communicative practice. Previous research on flipped instruction has reported positive effects on speaking performance, but differences across studies suggest that the duration and organization of treatment can influence the outcomes (Tran & Nguyen, 2018; Yesilcinar, 2019). In the present study, the statistical evidence most clearly supported the effect of virtual flipped teaching on speaking accuracy, while the evidence for fluency was comparatively limited.

Suggestions

Based on the findings and limitations of the present study, several suggestions can be made for teachers, educational planners, and future researchers. Since the results indicated a clearer improvement in speaking accuracy than fluency through virtual flipped instruction, future instructional planning should provide learners with more opportunities for repeated and meaningful oral practice. Teachers can use additional role-plays, pair discussions, question-and-

answer activities, and short speaking tasks so that students have more opportunities to produce English spontaneously. Persian research on the educational network used for virtual instruction has also emphasized the importance of considering the opportunities and challenges of online teaching when designing virtual learning activities (عباسی، حجازی و حکیم‌زاده، ۲۰۲۱).

Another suggestion is to extend the duration of virtual flipped instruction. The present study was conducted over a relatively limited period, and the development of fluency may require longer and more continuous practice. Future studies can examine the effect of virtual flipped teaching over a longer period and with a greater number of instructional sessions in order to determine whether extended exposure produces stronger changes in speaking fluency. Longer interventions may also provide learners with more time to become familiar with the virtual learning procedures and gradually improve their ability to speak more naturally.

It is also suggested that teachers place greater emphasis on the pre-class stage of the flipped model. Students should be encouraged to watch the assigned videos, listen to the teacher's explanations, review vocabulary, and prepare their speaking tasks before the synchronous session. Short preparation exercises or comprehension questions can be used to check whether students have completed the pre-class materials. Providing digital learning resources before class can create additional opportunities for students to study at their own pace and prepare for interactive activities (Salehi et al., 2020).

Future researchers are also encouraged to investigate other dimensions of speaking proficiency. The present study concentrated mainly on accuracy and fluency; therefore, further research could examine interaction, coherence, pronunciation, vocabulary use, or willingness to communicate. Such research could provide a broader understanding of how virtual flipped instruction influences different components of oral language performance. Previous studies have shown that flipped learning may facilitate speaking practice, although its effects can differ across learner variables and language outcomes (Korkmaz & Mirici, 2021).

Finally, teachers and syllabus designers can consider integrating virtual flipped activities into English courses when appropriate, particularly for speaking preparation and practice. Digital materials can be designed in short and accessible formats, and students can be given opportunities to review them several times before participating in synchronous activities. Attention should also be paid to students' access to devices, Internet connectivity, and the technical quality of instructional materials. Research on virtual flipped learning has reported increased active-learning engagement in virtual settings, supporting the value of carefully designed interactive activities alongside pre-class digital preparation (Wade et al., 2021). In addition, future studies can investigate the relationship between virtual flipped learning and speaking fluency using longer treatment periods and more participants, as well as examining virtual flipped instruction in less-accessible educational environments.

Conclusion

The present study was conducted to investigate the effect of virtual flipped classroom instruction on the speaking proficiency of Grade Nineth EFL learners in Iran. The study focused particularly on two important dimensions of speaking proficiency, namely accuracy and fluency, and compared the outcomes of virtual flipped teaching with those of flipped classroom instruction. Fifty female ninth-grade students from one high school in Qom participated in the study. After determining their proficiency level and establishing their relative homogeneity through the General Oxford Placement Test, the participants were divided into two groups of 25 students. One group received virtual flipped instruction through SHAD, while the second group received flipped classroom instruction. The students' speaking proficiency was assessed through pre-test and post-test administration of the Cambridge ESOL speaking test.

The findings demonstrated that the two instructional approaches did not result in identical patterns of speaking development. In the virtual flipped classroom group, a statistically significant improvement was found in students' speaking accuracy. Students demonstrated higher performance after the treatment in their ability to produce more accurate spoken language. However, the change in fluency was not statistically significant. This result indicates that the virtual flipped approach provided stronger evidence of improvement in accuracy during the period of the study. One possible explanation is that students had access to instructional videos, podcasts, vodcasts, and teacher explanations before the virtual sessions. These materials allowed them to review vocabulary, grammatical structures, and examples and prepare their responses before participating in speaking activities.

The results for the flipped classroom group showed a different pattern. Neither speaking fluency nor speaking accuracy demonstrated a statistically significant change between the pre-test and post-test. Although numerical differences were observed in the students' scores, these changes did not reach statistical significance. Furthermore, the comparison between the two groups indicated differences between the effects of virtual flipped and flipped classroom instruction on both fluency and accuracy. Thus, the findings suggest that the environment in which flipped instruction is implemented may contribute to different patterns of speaking performance.

The study also demonstrates that virtual flipped instruction should not be viewed as a method that automatically improves every aspect of speaking proficiency. Its effectiveness may depend on factors such as the duration of the treatment, students' participation in pre-class activities, the quality of digital materials, access to technological resources, and the nature of the speaking tasks. The relatively short intervention and the technological limitations encountered during the study may have affected the development of fluency. Therefore, longer instructional periods and more frequent opportunities for spontaneous communication may be needed to observe broader changes in oral proficiency.

References

- Abuhamid, A. & Mohammad, A., The Impact of Flipped Learning on Procrastination and Students' Attitudes toward It, pp. 566–573, 2020, Universal Journal of Educational Research.
- Afghari, H., Lotfi, A. R. & Vaezi, S., EFL Learners' and Instructors' Perceptions of Flipped Teaching in the University Context, pp. 1–15, 2019, Journal of Language Teaching and Research.
- Afzali, Z. & Izadpanah, S., The Effect of Flipped Classroom Model on Iranian English as a Foreign Language Learners' Engagement and Motivation in English Language Grammar, pp. 1–15, 2021, Journal of Language Teaching and Research.
- Alibeigloo, M., et al., The Effect of Flipped Classroom on Iranian EFL Learners' Speech-Act Production, pp. 1–12, 2020, International Journal of Instruction.
- Bergmann, J. & Sams, A., Flip Your Classroom: Reach Every Student in Every Class Every Day, pp. 1–112, 2012, International Society for Technology in Education.
- Hashemifardnia, A., Shafiee, S., Rahimi Esfahani, F. & Sepehri, M., Effects of Flipped Instruction on Iranian Intermediate EFL Learners' Speaking Complexity, Accuracy and Fluency, pp. 1–18, 2021, Cogent Education.
- Ismail, H. & Shubair, M., The Effect of Virtual Flipped Classroom on Students' Learning Achievement in Computer Programming, pp. 1–10, 2019, International Journal of Emerging Technologies in Learning.
- Izadpanah, S., et al., The Effect of Flipped Classroom on Iranian Adolescent EFL Learners' Vocabulary Recall and Retention, pp. 1–15, 2021, Journal of Language Teaching and Research.
- Kormos, J. & Dénes, M., Exploring Measures and Perceptions of Fluency in the Speech of Second Language Learners, pp. 145–167, 2004, System.
- Korkmaz, G. & Mirici, İ. H., Contributing to Students' Speaking Practice through Flipped Teaching, pp. 1–14, 2021, Teaching English with Technology.
- Nunan, D., Practical English Language Teaching, pp. 1–342, 2003, McGraw-Hill Education.
- Rezaei Fard, Z., Shahrokhi, M. & Talebinejad, M., The Effect of Flipped Class on Iranian ESP Students' Vocabulary Learning, Retention and Attitudes, pp. 1–12, 2021, International Journal of Foreign Language Teaching and Research.
- Salehi, H., et al., Virtual Flipped Classroom: A New Approach to Online Learning and Teaching, pp. 1–12, 2020, Journal of Educational Technology.
- Taylor, L., The Cambridge ESOL Speaking Tests and Speaking Ability, pp. 1–20, 2003, Cambridge Assessment.
- Tran, Q. T. T. & Nguyen, V. L., Flipped Model for Improving Students' English Speaking Performance, pp. 90–97, 2018, Can Tho University Journal of Science.
- Wade, S., et al., Virtual Flipped Classroom and Active Learning Strategies in Online Education, pp. 384–389, 2021, Advances in Physiology Education.
- Yesilcinar, S., Using the Flipped Classroom to Enhance Adult EFL Learners' Speaking Skills, pp. 1–12, 2019, PASSA.