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The Effect of Station Rotation Model on Iranian Intermediate EFL Learners' Self-Efficacy and Willingness to Communicate

Mohammad Rahimi

Associate Professor, Department of English language Teaching, Lam,C., Islamic Azad University, Lamerd, Iran, Email: rahimi175@gmail.com

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ABSTRACT

Objective: This study investigated the impact of the Station Rotation Model (SRM) on the self-efficacy and Willingness to Communicate (WTC) of Iranian intermediate English as a Foreign Language (EFL) learners.

Methods: Ninety female intermediate EFL learners were assessed using the Oxford Placement Test (OPT). Sixty students were selected based on their performance and equally divided into an experimental group (n=30) and a control group (n=30). Both groups completed WTC and self-efficacy questionnaires prior to the intervention. Subsequently, the experimental group participated in SRM classes for eight sessions. The SRM, a blended learning strategy, involved rotations through various learning stations, including online learning, collaborative activities, and direct instruction. The control group received standard in-person instruction during this period.

Results: Analysis via an independent samples t-test revealed that the Station Rotation Model had a statistically significant positive effect on both learners' self-efficacy and their WTC. Improvements in self-efficacy suggest that the interactive nature of the model enhances learners' confidence in their language abilities. Furthermore, the structured yet flexible environment of the SRM increased learners' readiness to engage in communicative interactions.

Conclusions: The findings highlight the potential of the Station Rotation Model to foster a dynamic and interactive learning environment that effectively improves key psychological factors supporting successful language acquisition.

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Introduction

The integration of technology in education has undergone rapid growth due to the rapid advancements in technological development over the centuries. The exploitation of technology to optimize language acquisition is not a novel concept in the realm of education, as it has been around since the 1950s and 1960s when it was first manifested in the form of language simulation centers (Brown, 2007). Indeed, the accessibility of high-quality, reliable tools at affordable prices can significantly enhance the popularity of distance learning initiatives (Wang, 2017). One of these new technology-supported developments in the context of education is blended learning.

As a subtype of blended learning, the Station Rotation Model (SRM) is a hybrid learning approach that enables students to seamlessly transition between traditional face-to-face instruction and online learning environments. In practical implementation, this model involves students rotating between different stations, where they can engage with various educational tools and modalities. For instance, students may access traditional instructional materials, such as printed tutorials, at their desks, while also utilizing digital devices, such as smartphones, tablets, and laptops, to participate in online learning experiences. One can postulate that these new developments change the learners' variables, such as self-efficacy and willingness to communicate.

Yousefi and Kasaian (2014) suggest that self-efficacy is closely tied to agency, encompassing an individual's conviction in their capacity to exert control over outcomes or attribute success to their own efforts. Researchers have endeavored to provide a comprehensive definition of self-efficacy, with the majority drawing inspiration from Bandura's (1986) seminal work, which defines it as individuals' assessments of their ability to devise and execute courses of action necessary to achieve specific performance goals.

Furthermore, one of the most significant individual differences affecting the quality of language development is the willingness to communicate (WTC), which is characterized by the degree to which an individual is eager to engage in interactions with others in diverse communicative contexts. This construct was initially introduced by McCroskey and Baer (1985) as a measure of people's propensity to participate in verbal communication in their native language. Later, MacIntyre (2007) proposed that WTC represents the psychological readiness to utilize the target language when opportunities arise. Since its inception, WTC has gained widespread acceptance among L2 scholars and has become a vital component of modern language instruction.

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Some studies have sought to shed light on the effect of blended learning on students' variables. For example, Halverson and Graham (2019) found that blended learning can encourage WTC through fostering attention, effort and persistence, time on task, cognitive strategy use, absorption, and curiosity. Along the same lines, O'Brien and Toms (2008) sought to provide a list of engagement features to predict online WTC, along with the features of the internet-based courses and the participant. However, few, if any studies have sought to examine the effect of station rotation model (SRM) as a type of blended learning on EFL learners' self-efficacy and WTC, particularly, in the context of EFL (English as a foreign language). Indeed, given the increasing resort to various formats of online learning, one can raise the question whether or not the subtypes of blended learning, such as station rotation model have any positive effect on the EFL learners' self-efficacy and willingness to communicate. Therefore, the main aim of this study is to shed light on whether or not station rotation model has any significant effect on Iranian EFL learners' self-efficacy and willing to communicate. More specifically, given the increasing use of this model of online learning across the world, it would be very useful to paint a comprehensive picture of the extent to which SRM contributes to the self-efficacy and WTC by conducting relevant studies.

Considering this purpose, the main research questions of the study were as follows:

RQ1: Does Station Rotation Model have any statistically significant effect on Iranian intermediate EFL learners' self-efficacy?

RQ2: Does Station Rotation Model have any statistically significant effect on Iranian intermediate EFL learners' willingness to communicate?

To be on the safe side and based on the above research questions, the following null hypotheses were developed:

H01: Station Rotation Model has no statistically significant effect on Iranian Intermediate EFL learners' self-efficacy.

H02: Station Rotation Model has no statistically significant effect on Iranian Intermediate EFL learners' willingness to communicate.

Review of Literature

2.1. Blended Learning

The integration of cutting-edge technology into education has given rise to blended learning, an innovative approach aimed at enhancing knowledge and performance (Rosenberg, 2001). Graham

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(2006) defines blended learning as a hybrid model that combines online and offline learning experiences, leveraging computer-based technologies to facilitate knowledge acquisition. This pedagogical approach, characterized by the fusion of traditional and E-learning methods (He Kekang, 2004), offers students access to a diverse array of online resources and compensates for the limitations of online learning.

Blended learning models can be categorized based on the balance between face-to-face and online instruction. Researchers have proposed various models, including a four-step model by Barnum and Paarmann (2002) and six categories of blended learning models identified by Horn and Staker (2011) through their implementation in 80 US schools. However, blended learning is more than a simple combination of teaching methods; it is a comprehensive framework that integrates ideas, models, and organizational strategies to foster innovation and creativity in education.

The benefits of blended learning are numerous, including providing learners with flexible access to learning materials from various sources at any time and location (Bergmann & Sams, 2012). This is particularly valuable in regions where traditional education is challenging to access, such as remote and rugged areas. Blended learning can also support students who face transportation difficulties, health issues, or difficulty understanding concepts in a traditional classroom setting, such as homeschool learners (Kumi-Yeboah & Smith, 2018). By providing students with more autonomy over their learning process and assessment, blended learning can also improve motivation (Hogan, as cited in Truitt, 2016).

Station Rotation Model (SRM)

The Station Rotation Model (SRM) is a hybrid learning strategy that seamlessly merges face-to-face and online instruction (Kim, 2013). This innovative approach involves a structured rotation of students among various learning stations, as dictated by the teacher's schedule and guidelines (Walne, 2012). The number and types of stations in the SRM can vary depending on the educator's objectives, but a minimum of three stations are necessary, including a teacher-led zone, a collaborative space for peer-to-peer interaction, and an online platform for digital learning (Staker & Horn, 2012). By integrating traditional instructional methods with modern technology, the SRM offers students the best of both worlds, fostering a comprehensive learning experience (Christensen, Horn, & Staker, 2013).

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In the SRM, teachers orchestrate the setup of stations and activities, with an online station being a mandatory component of the model (Walne, 2012). The SRM's defining feature is its requirement of at least three stations: a teacher-led station, a collaborative station, and an online station. This distinctive blend of learning modalities enables students to reap the benefits of both traditional instruction and modern technology, ultimately leading to enhanced learning outcomes (Christensen, Horn, & Staker, 2013).

This pedagogical approach necessitates students' physical presence in classrooms, where they alternate between utilizing traditional educational tools and digital devices for online learning experiences (Miller et al., 2012). For instance, students may engage with a reversed classroom paradigm, accessing online course materials prior to participating in face-to-face classroom sessions with instructors (Truitt, 2016).

The SRM takes the rotation model a step further by allowing educators to schedule students to switch between various classroom-based learning formats, encompassing both face-to-face instruction and online learning through diverse learning platforms (Maxwell & White, 2017). These platforms can offer a range of activities, including small group or whole-class instruction, school events, student mentoring, or traditional paper-based assignments. The SRM enables students to experience a tailored blended learning approach chosen by their teacher, combining face-to-face instruction, online learning, and a variety of immersive learning experiences (Kim, 2013).

Empirical evidence indicates that when SRM is implemented effectively, it can have a profound and enduring positive effect on academic achievement (Aldukhi, 2020). The online components of SRM allow educators to move beyond the limitations of the traditional classroom, using digital platforms to foster creativity and provide immersive learning experiences that would otherwise be impossible in a strictly in-person setting. This approach enables learners to engage with a wide variety of tools and applications, such as educational games, multimedia resources, and interactive simulations, which enrich the learning experience and deepen understanding of the subject matter (Kim, 2013).

Also, SRM encourages active participation in various interactive activities, such as digital scavenger hunts, collaborative projects, and social media interactions. These activities serve to boost student engagement by making learning more dynamic and participatory, helping to sustain

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motivation and interest throughout the learning process. Through these interactive methods, teachers can create a more vibrant and socially connected learning environment, where students not only acquire knowledge but also develop critical thinking and collaborative skills, further enhancing their overall educational experience (Miller et al., 2013).

2.2. Self-Efficacy

Bandura (1997) describes self-efficacy as the extent to which we are confident regarding our ability to successfully complete a task or a series of tasks. He characterizes self-efficacy as the degree to which we trust our ability to successfully perform a task or multiple tasks. Indeed, self-efficacy has to do with agency, implying belief in having control over outcomes or considering ourselves as the cause of an effort (Zimmerman, 1990 cited in Yousefi & Kasaian, 2014). Some researchers have sought to give a coherent definition of self-efficacy, with the majority of them having offered a reworded version of Bandura's (1986) definition, namely, our judgments of our abilities to organize and implement courses of action needed to obtain designated types of performances. For instance, McCombs (2001) elaborates on self-efficacy beliefs in terms of judgment we make of our ability to successfully carry out task. According to Schunk (2001), as a concept, self-efficacy has its roots in Bandura's theory of human functioning.

Huang and Shanmao (1996) define self-efficacy as an individual's belief in their capability to successfully perform a task or behavior, emphasizing its role in determining one's approach to challenges and persistence in learning. This belief is not fixed; rather, it can be shaped and strengthened over time through various experiences and strategies. Chamot, Barnhardt, El-Dinary, and Robbins (1996) argue that the use of second language (L2) learning strategies significantly contributes to reinforcing self-efficacy. When learners engage with strategies that enhance their learning outcomes, their perceptions of self-efficacy are indirectly strengthened, as they experience success and improvement in their performance. For instance, cognitive and metacognitive strategies that promote better comprehension, retention, and application of language skills can help learners feel more competent and in control of their learning process.

Self-efficacy is not merely a static trait but a dynamic construct that can be developed and enhanced through intentional learning strategies and positive psychological reinforcement. This, in turn, can lead to greater motivation, persistence, and success in L2 learning contexts.

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In the area of EFL/ESL learning, self-efficacy refers to one's beliefs and perceptions regarding how well he/she is able to successfully carry out a task in English given his/her past experiences. Self-efficacy gives an indication of the extent to which individuals can rely on their own abilities and skill, which influences their feelings, thinking, motivation, and behaviors. A high level of self-efficacy contributes to the fulfillment of desired work, enabling the individual to live up to expected performance, as well as personal well-being.

Willingness to Communicate (WTC)

The concept of Willingness to Communicate (WTC) has been described by Phillips (1965, cited in McCroskey, 1997) in terms of shyness and reticence; it is characterized by McCroskey (1977) with respect to an individual's ability to comprehend communication; Burgoon (1976) compares it to an individual's unwillingness to communicate; moreover, Mortensen, Arntson and Lustig (1977) explain willingness to communicate in terms of the individual's tendency toward verbal behavior, and McCroskey and Richmond (1982) relate WTC to shyness.

All of these writings focused on a presumed trait-like predisposition toward communication. Therefore, the concept of willingness to communicate was mainly developed based on Burgoon's (1976) notion of unwillingness to communicate and was primarily considered to elucidate individual differences in first language communication. The level of linguistic competence is not important, because some with a high level of linguistic competence have less communication rather than some with limited competence could speak more (Baghaei, Dourakhshan, & Salavati, 2012).

In addition, they claimed that culture is really important in generalization. Later, MacIntyre and Charos (1996) administered that personality and social context affected WTC in L2. WTC which integrates psychological, linguistic, and communicative variables to describe, explain, and predict second language communication, is predominant and significant these are variables that were claimed by Maclntyre et al. There are twelve variables in a layered pyramid (see Fig. 1).

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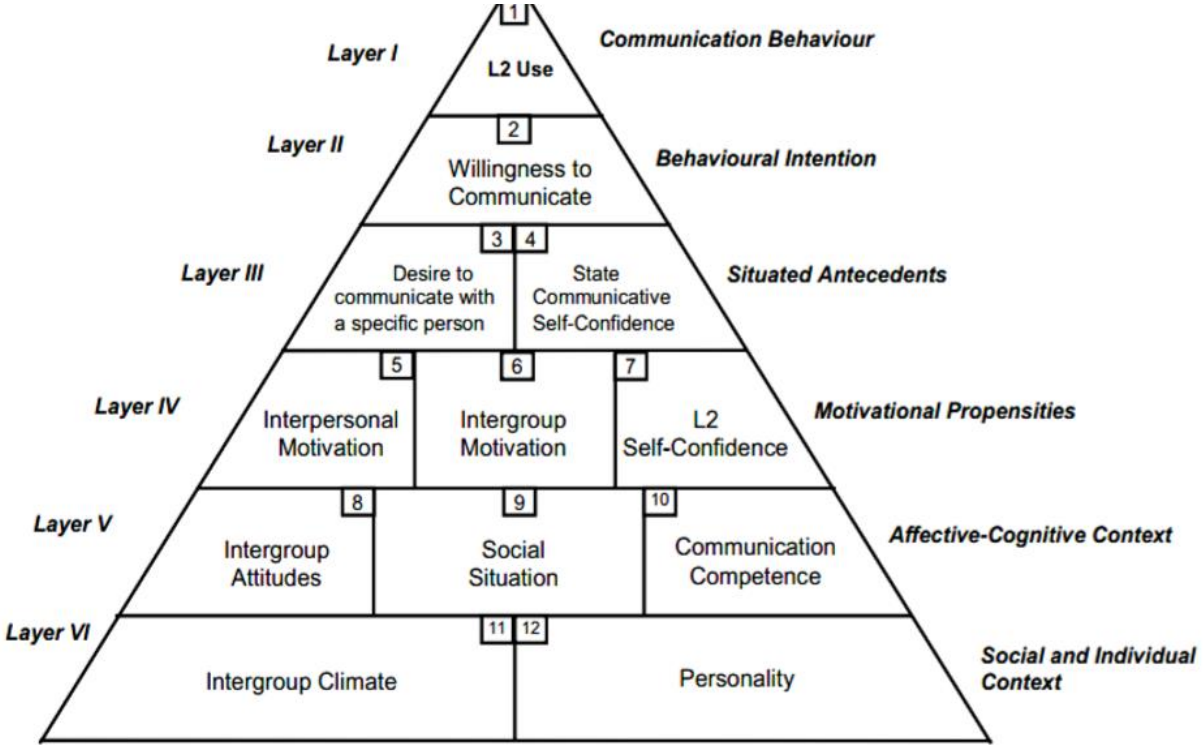


Figure 1. Twelve variables in a layered Pyramid of WTC

The diagram illustrates six distinct categories or variables, designated as layers within the pyramid. The model elucidates the theoretical construct of WTC in L2 and the intricate relationships between variables that influence WTC in L2. As depicted in Figure 1, the contributing factors to WTC are categorized into two distinct groups: enduring variables and situational variables. The first three layers of the model are deemed to have fleeting effects and can be treated as context-specific variables, whereas the remaining three layers are perceived to exert enduring influences on WTC in L2 (MacIntyre et al., 1998). The WTC model provides a comprehensive explanation of the complex concept of L2 use, portraying WTC as an interplay between cognitive-affective processes and social factors.

According to this model, variables such as personality, attitude, and L2 competence have an indirect influence on WTC, while motivation and self-confidence have direct effects on WTC in an L2. The notion of "Willingness to Communicate" (WTC) serves as a model according to which several variables including psychological, linguistic, and communicative ones are integrated so that this integration helps to delineate, explain and forecast second language (L2) communication. Macintyre et al. (2002) assert that WTC is a state of preparedness to involve oneself in a discourse

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at a specific time with a specific individual or individuals using an L2. Indeed, this construct was first introduced in the 80s and 90s as a helpful concept used by researchers to describe, explain, and predict L2 communication (MacIntyre et al. 1998).

Empirical Background

Yousefi and Kasaian (2014) carried out a study to know whether there was any correlation between WTC and Iranian EFL learner speaking fluency and accuracy. In collecting data, OPT, WTC test, fluency and accuracy test were adapted. The findings of the study revealed that there was a positive and close relation between WTC and speaking fluency and accuracy of learners.

A study conducted by Huseyin, Demirezen and Pourfeiz, (2015) aimed to explore the perceived level of L2 WTC among EFL learners in Turkish context.134 EFL learners were participated in the research. The data of the study were collected using questionnaire about participants' WTC, communication and affective factors. The results showed that 21.6% of the participants had high WTC, 13.4 had high communicative competence and 18.7% had high scores in communication apprehension. Moreover, the results of (SEM) showed that students' WTC is directly related to their communication competence and communication apprehension. However, no significant direct path was found from motivation to WTC.

Valadi, Rezaee and Baharvand (2015) carried out an investigation to examine the potential relation between willingness to communicate (WTC) and L2 learners' speaking proficiency in Iran. The sample of this study was made up of seventy intermediate students who had been randomly selected. The instruments used by the study were WTC questionnaire and standard speaking test. Moreover, the researchers performed semi-structured interviews to validate the data. The findings indicated a rather strong correlation between the participants' WTC and their oral proficiency. No significant difference was found between male and female learners based on WTC.

Aliakbari, Kamangar and Khany (2016) probed the effect of anxiety, self-confidence, communicative competence and international posture on Iranian EFL learners' WTC. To achieve this, a sample of 194 high intermediate and advanced level learners were randomly chosen to participate. The findings of the study indicated that there was a positive relation between participants' WTC and their attitude toward the international community, their perceived linguistic competence and self-confidence.

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Method

Participants

In order to conduct this research, a total of 60 Iranian intermediate EFL learners were selected from an initial pool of 90 learners based on their performance on Oxford Placement Test (OPT). The learners were all female learners in Ferdows language institute in Asalouyieh, participating in both online and in-person classes. Persian was the mother tongue of all the participants and they were within the age range of 20 to 35. The participants were selected based on convenience non-random sampling procedures.

3.2. Instrumentation

3.2.1 Oxford Placement Test (OPT)

As a proficiency test, OPT contains 100 items which tests the English learners' proficiency in 45 minutes. The participants' performance was measured through their scores which show their level of language proficiency from beginners to advanced level as follows: 00-20 (Elementary), 21-35 (Pre-intermediate), 36-60 (Intermediate), 61-85 (Upper-Intermediate), 86-100 (Advanced). For the purposes of this study, based on OPT scale, the participants whose scores were within the range of 36 to 60 will be included.

3.2.2 Willingness to Communication (WTC) Questionnaire (Pretest and posttest)

Since WTC was the dependent variable of the present study, a WTC questionnaire was administered to the learners prior and subsequent to the treatment for pretest and posttest purposes. The reliability of the WTC questionnaire has been reported to be between 0.85 and 0.90 by McCroskey and Richmond (2013). As for construct validity, MacIntyre et al. (2001) explored the validity of the instrument via both exploratory and confirmatory factor analyses and came with satisfactory results.

Self-Efficacy Questionnaire

The subjects' self-efficacy was measured using the Persian Adaptation of General Self-efficacy Scale devised by Nezami et al. (1996). This scale was administered to elicit the EFL learners' self-efficacy regarding their own learning skills and competence. The scale is made of 10 items and the participants needed to report on a scale of one to four; that is, they need to mark one of the following; strongly disagree, disagree, agree, strongly agree.

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Procedure

First of all, the instruments of the study, namely, Oxford Placement Test (OPT), Communication (WTC) Questionnaire, and self-efficacy questioner were piloted on 30 participants. Next, 90 females intermediate EFL learners were given the OPT and 60 students were selected based on their performance. They formed an experimental and a control group. Either of experimental and control groups were made up of 30 learners. As for the ethical consideration, the participants were assured that their scores would be kept confidential. It is also noteworthy that all the participants expressed their consent to participate in the study. They were also assured that their performance on the test would not their final evaluations by the institute. be used to They were all administered WTC and self-efficacy questionnaires before the treatment. Then, the experimental group took part in the SRM classes for 8 sessions, while the latter took in-person classes. The treatment proceeded as follows:

Experimental group was provided with warm-up materials to be later covered in the class. They practiced the material at home. Indeed, they were introduced to the main highlight of the following in-person sessions. In an SRM learning environment, students were dynamically traversing a range of interactive hubs, pausing at each station to engage with diverse learning experiences. One of the stations is an online learning platform, where students can access and explore digital resources. Fr example, they received the vocabulary and the types of tasks to be dealt with in the in-person sessions. The following outline was followed for the experimental group:

Personalized Learning Objectives: Students were empowered to set their own academic objectives and track their progress towards achieving them. This facilitated a sense of ownership and motivation, driving their learning journey.

Self-Awareness Development: To enhance their learning autonomy, students were equipped with metacognitive skills, including self-reflection, self-assessment, and self-evaluation. This helped them identify their strengths and weaknesses, and pinpoint areas for improvement.

Strategic Learning Techniques: Students received explicit instruction in effective learning strategies, such as note-taking, summarization, and paraphrasing. This enabled them to process and retain information more efficiently.

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Ongoing Assessment and Feedback: Regular and constructive feedback was provided on students' work, encompassing content, language usage, and formatting. This helped students identify areas for improvement and make adjustments accordingly.

Interdependent Learning: Students were encouraged to collaborate in pairs or groups to practice language skills, receiving feedback from peers. This fostered a supportive learning environment, allowing students to learn from each other's strengths and weaknesses.

The activities shifted between the online mode and in-person mode; that is, the teacher asked this group to do some assignments and warm-up activities at home using Apps, such as WhatsApp. The teacher set a date when all the learners in the experimental group joined the online session in which they gave examples of the grammatical structures covered. They also shared the short stories or the texts they had found online and contained the vocabulary or structure taught by the teacher in the previous session. Moreover, online exercises and multiple-choice tests were taken by the learners in the experimental group.

As for the control group, they proceeded with the traditional tasks and activities in the class in the traditional way. All sessions were held in person and there were no online activities. The same textbook was covered in this group. As with the experimental group, task-based instruction was used in the control group, with a focus on meaning and their ability to communicate

After that, the participants in the two groups were asked to complete the WTC questionnaire, as well as self-efficacy questionnaire as posttests.

Results

To address the first research question, initially it was necessary to make sure that the two groups were not statistically different in terms of self-efficacy prior to treatment. In so doing, an independent samples t-test was run on the pretest self-efficacy scores of the experimental and control groups. Firstly, the normality of the data sets for self-efficacy pretest scores was checked. The skewness and kurtosis ratios belonging to the two sets of self-efficacy pretest scores fell within the range of -/+1.96, which is an indication of meeting the normality assumption (Pallant, 2013). Therefore, running independent samples t-test as a parametric test was warranted. Table 1 displays the results of independent samples t-test between the pretest self-efficacy scores of the experimental and control groups.

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Table 1. Independent Samples T-test for the Pretest Self-Efficacy Scores of the Experimental and Control Groups

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	*t*	*df*	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Pre Both SE	Equal variances assumed	.731	.396	-1.34	58	.183	-.90000	.66819	-2.23	.43752
	Equal variances not assumed			-1.34	57.57	.183	-.90000	.66819	-2.23	.43774

T-test produces two sets of results i.e. one set for variances assumed equal between the groups and another set for variances assumed unequal between the groups. Since the Levene's test showed that the variances were equal between the groups (F=.731, p=.36>0.05), therefore variances were assumed equal and t value was considered 1.34 (p=.183>0.05). Accordingly, there was not a statistically significant difference between the pretest self-efficacy scores of the experimental and control groups. Thus, any differences between the posttest self-efficacy score means of the two groups can be attributed to treatment. Table 3 portrays the results of descriptive statistics for the posttest self-efficacy scores of the experimental and control groups.

Table 2. Descriptive Statistics for the Posttest Self-Efficacy Scores of the Experimental and Control Groups

Descriptive Statistics									
	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Post Exp Self-efficacy	30	13.00	23.00	18.4000	2.41547	-.097	.427	-.499	.833
Post Control Self-efficacy	30	10.00	20.00	15.5000	2.70057	-.304	.427	-.919	.833
Valid N (listwise)	30								

As revealed in the above table, the skewness and kurtosis ratios belonging to the two sets of self-efficacy posttest scores fell within the range of -/+1.96, which is an indication of meeting the normality assumption (Pallant, 2013). Therefore, running independent samples t-test as a

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parametric test was legitimate. Table 3 shows the results of independent samples t-test between the posttest self-efficacy scores of the experimental and control groups.

Table 3. Independent Samples T-test for the Posttest Self-Efficacy Scores of the Experimental and Control Groups

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	*t*	*df*	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Post Both SE	Equal variances assumed	.942	.336	4.384	58	.000	2.90000	.66150	1.57586	4.22414
	Equal variances not assumed			4.384	57.293	.000	2.90000	.66150	1.57551	4.22449

Since the assumption of equal variances was met (F=.94, p=.33>0.05), the results for equal variances assumed are reported. As indicated in the above table, t value was 4.38 (p=.000<0.001). Accordingly, there was a statistically significant difference between the posttest self-efficacy scores of the experimental and control groups with the experimental group outperforming the control group. Thus, the first null hypothesis of the study was rejected and it was concluded that Station Rotation Model has a statistically significant effect on Iranian Intermediate EFL learners' self-efficacy.

The second research question of the present study and its corresponding null hypothesis were:

RQ2: Does Station Rotation Model have any statistically significant effect on Iranian intermediate EFL learners' willingness to communicate?

H02: Station Rotation Model has no statistically significant effect on Iranian Intermediate EFL learners' willingness to communicate.

To address the second research question, initially it was necessary to make sure that the two groups were not statistically different in terms of WTC prior to treatment. In so doing, an independent samples t-test was run on the pretest WTC scores of the experimental and control groups. Firstly, the normality of the data sets for WTC pretest scores was checked. Table 4 illustrates the results of descriptive statistics for the pretest WTC scores of the experimental and control groups.

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Table 4. Descriptive Statistics for the Pretest WTC Scores of the Experimental and Control Groups

Descriptive Statistics									
	N	Minimum	Maximum	Mean	*SD*	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Pre Exp WTC	30	35.00	58.00	46.5667	6.55840	-.007	.427	-.935	.833
Pre Control WTC	30	31.00	62.00	45.6000	8.08831	-.039	.427	-.598	.833
Valid N (listwise)	30								

As indicated in the above table, the skewness and kurtosis ratios belonging to the two sets of WTC pretest scores fell within the range of -/+1.96, which is an indication of meeting the normality assumption (Pallant, 2013). Therefore, running independent samples t-test as a parametric test was warranted. Table 5 displays the results of independent samples t-test between the pretest WTC scores of the experimental and control groups.

Table 5. Independent Samples T-test for the Pretest WTC Scores of the Experimental and Control Groups

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	*t*	*df*	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Pre WTC Both	Equal variances assumed	1.201	.278	.508	58	.613	.96667	1.90117	-2.838	4.77227
	Equal variances not assumed			.508	55.625	.613	.96667	1.90117	-2.842	4.77573

T-test produces two sets of results i.e. one set for variances assumed equal between the groups and another set for variances assumed unequal between the groups. Since the Levene's test showed that the variances were equal between the groups (F=1.20, p=.27>0.05), therefore variances were assumed equal and t value was considered .508 (p=.613>0.05). Accordingly, there was not a statistically significant difference between the pretest WTC scores of the experimental and control groups. Thus, any differences between the posttest WTC score means of the two groups can be attributed to treatment.

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The skewness and kurtosis ratios belonging to the two sets of WTC posttest scores fell within the range of -/+1.96, which is an indication of meeting the normality assumption (Pallant, 2013). Therefore, running independent samples t-test as a parametric test was legitimate. Table 6 shows the results of independent samples t-test between the posttest WTC scores of the experimental and control groups.

Table 6. Independent Samples T-test for the Posttest WTC Scores of the Experimental and Control Groups

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	*t*	*df*	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Posttest WTC Both	Equal variances assumed	2.541	.116	-5.82	58	.000	-10.70000	1.83563	-14.37	-7.025
	Equal variances not assumed			-5.82	53.811	.000	-10.70000	1.83563	-14.38	-7.019

Since the assumption of equal variances was met (F=2.54, p=.116>0.05), the results for equal variances assumed are reported. As indicated in the above table 6, t value was 5.51 (p=.000<0.001). Accordingly, there was a statistically significant difference between the posttest WTC scores of the experimental and control groups with the experimental group outperforming the control group. Thus, the second null hypothesis of the study was rejected and it was concluded that Station Rotation Model has a statistically significant effect on Iranian Intermediate EFL learners' WTC.

Discussion

In comparing the results of this study with existing literature, several studies support the findings related to the Station Rotation Model's impact on self-efficacy and WTC among Iranian intermediate EFL learners. For instance, research by Bandura (1997) emphasized that environments offering learners more control and personalized feedback often result in increased self-efficacy, aligning with these findings. This increase in self-efficacy can be attributed to the interactive nature of such environments, where learners receive immediate feedback and can adjust their learning strategies accordingly. Similarly, Dabbagh and Kitsantas (2004) highlight that

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blended learning settings, by combining traditional instruction with online learning, provide a more comprehensive educational experience that improves students' self-confidence in their learning abilities. These findings indicate that the diverse instructional methods within the Station Rotation Model cater to different learning preferences, thereby enhancing self-efficacy.

On the topic of WTC, Peng (2012) demonstrated that EFL learners in active and diverse learning environments often exhibit higher levels of willingness to communicate. The structured yet flexible format of the Station Rotation Model creates a supportive and engaging learning environment, reducing anxiety and encouraging more participation in communication activities. This finding is further supported by MacIntyre et al. (1998), who found that supportive learning contexts play a crucial role in fostering willingness to communicate. The opportunities for peer interaction and the variety of activities in the Station Rotation Model contribute to a more comfortable and motivating environment for learners, facilitating greater communicative confidence.

However, not all literature is in agreement with these findings. Some contradictions exist, particularly regarding self-efficacy. Pajares (2003) suggested that without adequate scaffolding and support, learners in mixed instructional models might experience anxiety that can undermine self-efficacy. This suggests that the effectiveness of the Station Rotation Model might be contingent upon the level of support provided by instructors. If learners are not adequately guided, the complexity of managing multiple learning modes can lead to frustration and decreased confidence. Additionally, Zhao and Cziko (2001) found that technological challenges often present in blended learning environments can lead to inconsistent efficacy outcomes. Issues such as limited access to resources, technical difficulties, and lack of familiarity with digital tools can hinder the potential benefits of the Station Rotation Model, potentially leading to reduced self-efficacy among learners.

Regarding WTC, Yashima (2002) found that cultural factors could influence willingness to communicate more strongly than instructional models. Cultural attitudes towards communication, classroom behavior, and language learning can significantly affect learners' readiness to engage in communicative activities. In some EFL contexts, the adoption of new teaching methodologies like the Station Rotation Model might be perceived as unsupportive or unfamiliar, negatively impacting learners' willingness to engage. This underscores the importance of considering cultural nuances

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when implementing blended learning models, as what works in one context may not necessarily translate seamlessly to another.

Two significant caveats should be considered when interpreting the study's results. First, the impact of the Station Rotation Model on Iranian intermediate EFL learners may not be entirely generalizable to other cultural or educational contexts. Cultural attitudes towards education and communication can heavily influence outcomes in both self-efficacy and WTC. For instance, the emphasis on teacher authority in some cultures may affect how learners respond to more autonomous and interactive learning environments. Second, the effectiveness of the Station Rotation Model can greatly vary with the availability and quality of resources. Unequal access to technological tools might skew the development of self-efficacy and willingness to communicate in learners. The digital divide, including disparities in internet access, availability of devices, and technological proficiency, could significantly influence the outcomes of blended learning initiatives, indicating that the reported results could be significantly influenced by the technological infrastructure of the educational setting.

Last but not least, given that the sample of this study was made up of all female leaners, the results and findings may not be generalizable to the male leaners. Prospective studies could be conducted on the male participants to paint a more comprehensive picture.

Conclusion

This study provides compelling evidence that the Station Rotation Model significantly enhances self-efficacy and willingness to communicate (WTC) among Iranian intermediate EFL learners. The empirical results obtained through parametric independent samples t-tests underscore the efficacy of this blended learning approach in a language learning context. By rotating through various learning stations that combine online learning, collaborative work, and direct instruction, learners benefit from a more engaging and interactive environment. This, in turn, appears to bolster their confidence in their language learning abilities and their readiness to participate in communicative activities.

These findings suggest that the Station Rotation Model can be an effective instructional strategy to enhance both the self-efficacy and WTC of EFL learners, potentially due to the increased engagement, immediate feedback, and diverse learning modalities it offers. This study contributes

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to the growing body of research supporting blended learning approaches and their psychological benefits for language learners, particularly in the context of EFL education.

Specifically, the significant improvements in self-efficacy suggest that the diverse and dynamic activities involved in the Station Rotation Model help learners develop a stronger belief in their capability to meet learning objectives. This is an essential factor in educational success, as self-efficacy influences motivation, effort, and persistence in learning tasks.

Similarly, the increase in WTC indicates that the supportive and varied learning environment provided by the Station Rotation Model encourages learners to engage more actively in communication. This readiness to communicate is crucial for language acquisition, as it enhances opportunities for practice and interaction, which are fundamental for developing linguistic competence.

The theoretical implications of these findings are substantial. Firstly, they provide empirical support for Bandura's (1997) self-efficacy theory, suggesting that environments offering control and personalized feedback can significantly enhance learners' confidence in their abilities. The study also supports the ideas proposed by Dabbagh and Kitsantas (2004) regarding the benefits of blended learning environments in improving learners' self-perception and engagement.

Furthermore, the results extend MacIntyre et al.'s (1998) WTC model by demonstrating that structured and supportive learning contexts can increase language learners' willingness to communicate. This aligns with Peng's (2012) findings that active and diverse learning environments positively influence WTC, highlighting the importance of creating engaging and varied instructional settings in EFL education.

Moreover, the study sheds light on the practical applicability of the Station Rotation Model in language learning contexts. It suggests that incorporating blended learning strategies in EFL instruction can facilitate significant improvements in crucial psychological constructs, leading to better educational outcomes.

Overall, this study advances our understanding of the impact of the Station Rotation Model on EFL learners' self-efficacy and WTC. It underscores the value of blended learning approaches in fostering a more engaging, supportive, and dynamic learning environment. The empirical evidence provided highlights the potential for such instructional models to significantly enhance learners' confidence and communicative readiness, contributing to more effective and successful language

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acquisition processes. Future research should continue to explore these effects in different cultural and educational contexts to further validate and extend these findings.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

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