Chabahar Maritime University
Iranian Journal of English for Academic Purposes ISSN: 2476-3187
IJEAP, 2024, 13(2), 35-49 (Previously Published under the Title: Maritime English Journal)

Does Attendance Time Matter? Standard vs. Flipped Classroom on WTC, Motivation, and Autonomy

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Research Paper IJEAP- 2405-2043 DOR: 20.1001.1.24763187.2024.13.2.3.0
Received: 2024-04-01 Accepted: 2024-06-25 Published: 2024-06-28

Abstract: Pitfalls reported in normative approaches toward language teaching, movement into post-method frameworks and the necessity of reaping the benefits of technological advancements gave birth to flipped instruction as a newly emerged practice of teaching. A robust literature has submitted proof of the merits of this practice in language learning. Thus, adopting an innovative perspective, the current research was an attempt to investigate the effect of virtual and standard flipped methods on autonomy, motivation, and WTC of Iranian intermediate language learners. To this aim, 63 intermediate learners (male and female) were selected through convenience sampling, and after removing outliers, 54 learners were randomly assigned to control (N=19), first experimental (N=18), and second experimental (N=17) groups. For each variable, a valid instrument was adopted from the literature and modified for the purpose of the study. Then, employing a pre-test/intervention/post-test design, learners' performance on the post-test was measured and analyzed through one-way analysis of variance and Kruskal-Wallis. The outputs revealed a statistically significant difference between groups on autonomy as determined by one-way ANOVA ($F (2, 51) = 25.221$, $p = 0.000$). Also, a Kruskal-Wallis H test indicated a statistically significant difference in mean scores between the different groups of language learners, $\chi2 (2) = 32.317$, $p = 0.000$ for WTC, and $\chi2 (2) = 32.261$, $p = 0.000$ for motivation. Post-hoc tests were conducted to specify where the differences are laid. Further investigation is suggested to examine the interaction between the variables. These findings have implications for educational researchers, language teachers, language learners, and applied linguists.

Keywords: Autonomy, Flipped Classroom, Motivation, Willingness to Communicate

Introduction

Considering the deficiencies reported in normative approaches toward language teaching (Nunan, 1995), newly emerged theories and approaches such as learners' autonomy, heuristic learning, the transformation of teaching (rather than transmission), and glocalization of methods and materials became important (Kumaravadivelu, 2005). According to Leat (2017), language instructors in normative classes utilized a variety of instructional practices to cover content standards through the agency of direct instruction or lecture-based teaching to transfer the content in the class and, in turn, students implemented a follow-up exercise to master the conveyed content either inside or outside of the classroom where teachers were mainly active and students were mainly passive (Fulton, 2012). According to the newly emerged theories of learning and psychology, the tradition was inherently

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flawed. The way realia and materials were used in normative classes, the way instructional practices were designed, class time was devoted, materials were presented and reviewed, homework was assigned, and evaluation was performed stand in contrast with emerging frameworks in the world of teaching and learning such as heuristic-discovery learning and knowledge transformation and transcendence resulting in learner autonomy (Johnson, 2012).

Another line of research that recognized the necessity for a shift in education resides in the extensive use of technology in the classroom, as more instructors are varying teaching methods to include it in their lessons (Sahin et al, 2015). Phillips and Trainor (2014) believe that students entering educational settings see technology as an integral part of their academic life. However, in many settings the use of technology is at the margin. Roehl et al (2013) concluded that settings in which teachers fail to exploit the full potential of technology, result in rote learning and memorization and create a classroom environment in which students are required to stay less active during the lesson compared with technologically driven classes.

More specifically, one more area of change which emphasized the necessity for departure from traditional methods was theoretical changes and movements from pedagogy to andragogy, underscoring learners' need to know, learner's self-concept, the role of experience, readiness to learn, orientation to learning, and motivation because these factors were almost not at work in pedagogy due to its subconscious status (Knowles et al, 2005). Necessity of departure from traditional lecture-based classes is also highlighted by Yıldız et al. (2022).

Among new approaches in teaching which is in line with these post-method concepts, is the flipped classroom. Güler et al. (2023) believes that flipped instruction is a revolution in teaching methods compared with normative classical ones. The traditional approaches employ didactic lecture as their primary tool to transfer knowledge to the student while the flipped classroom approach underscores the transformation of knowledge (Mehta et al., 2013). Huang et al. (2023) also reported that, flipped instruction, compared with traditional methods, instills a sense of problem-solving among language learners. Meeting students' needs (Murray et al., 2014), increasing learning opportunities (Means et al., 2013), enjoying the merits of technology (Della Ratta, 2015), displacing mere teacher-driven classrooms (Hamdan et al., 2014), and learner autonomy (Vaughan, 2014) are taken into account in the flipped classroom. Considering these merits and the problems reported in language teaching in the country, the current research was an attempt to investigate the effect of two models of flipped education on the autonomy, motivation, and WTC (willingness to communicate) of Iranian intermediate language learners. Thus, the following research question was raised:

Research Question One: Do different models of flipped instruction have any significant effect on Iranian learners' autonomy, motivation, and willingness to communicate?

Literature Review

Background

Baker (2000) states that flipped education is not a new concept. The same assertion is also supported by Strayer (2007) who claimed that this concept has developed over time and become mature through technological advancements. To submit proof of their claims, they state that distance education has been an approach that utilized educational videos to present content matters just before the appearance of flipping. Strayer (2007) also adds that simultaneous with the emergence of online content management systems, some practitioners in the field of language teaching laid the first stones of using online lecture notes, stretching out classroom conversations, and managing online quizzes while in-class time was expanded for students to apply the previously presented content and answer quizzes. A similar practice was adopted by Lage et al (2000), called "inverted classroom", in which learners were required to view the lectures in advance of class time while consuming the class time for elucidating more intricate concepts and materials through peer practice or small-group collaboration.

At the same time, Baker (2000) coined the term "the classroom flip" which has many commonalities with the inverted classroom concept. According to Johnson and Renner (2012), these practice materials, including video content, printable slides etc., were first introduced to the students through a variety of tools and media and then worked on in class. In other words, these approaches involve re-adjustment of instructional time into inside and outside the classroom and delegating the responsibility of learning decisions from the teacher to the student. This model of teaching shows that the view of learning and the role of teachers and learners have undergone critical changes because students concentrate on project-based learning outside the classroom and devote the valuable time of the class to in-depth analysis. The role of the teacher, also, changes into a supporter and facilitator. Some years later, Bergmann and Sams (2007) developed the contemporary method of exploitation of online videos to flip education but Pink (2010) elaborated on their practice and named their endeavor "the flipped classroom". Since that time the term became a well-known as established practice in the literature for teaching science in general and language learning in particular and generated a brand-new concept in education.

Related Studies

Concurrent with these theoretical transformations, a bulk of empirical and applied studies were conducted. Mardiha et al (2023) reported that, compared to normative approaches, flipped education enhances both learning variables (such as comprehension, engagement with materials and performance) and learners' variables (such as critical thinking skills and self-assurance). Karjanto and Acelajado (2022) conducted a researcher and found that, in radical contrast with static normative approaches in language teaching, flipped instruction is more dynamic and learner-centered. To investigate the effect of flipped learning on achievement and WTC of Iranian language learners, Mohammadi et al. (2019) revealed a significant promotion in two variables of the study i.e. learning achievement and willingness to communicate. According to Mohammadi et al. (2019, p.112), the findings supported the view that implementation of this model enhanced eleven graders' achievements and willingness to communicate because students in the experimental group outperformed participants in the control group as indicated by their performance in both the posttest and WTC questionnaire. Being attentive to all components of flipped instruction and incorporating both learning and learner variables has been among the advantages of this study while utilizing a post-test only design and lack of parity control as well as non-randomized selection of participants were among the liabilities of the study that might affect the generalization of its findings. Besides, Jafarigohar et al. (2019) investigated the effect of flipped learning on the performance and perception of Iranian language learners in terms of their speaking and listening. The authors reported that the flipped group participants outperformed the conventional group in the post-test on both skills.

Despite collecting both qualitative and quantitative data and selecting participant from academic setting, the instruments used to examine learning were adopted from general rather than academic English. The same findings were reported by Abedi et al. (2019) who investigated the effect of flipped learning on students' writing skills, and Vaezi et al. (2019) who delved into this effect on listening skill. In an attempt in an EFL context, Al-zahrani (2019) investigated the effect of teachers' understanding and implementation of flipped learning in Saudi Arabia. The findings showed that the teachers under study do not appropriately implement flipped classrooms in this country because they neither know flipped learning nor its underlying principles. Excluding both learners and learning variables at the expense of understanding teachers' attitude resulted in poor findings regarding effect of flipped education on language learning in the selected context. Considering the fact that flipped education provides a platform that blends with regular classroom and learning materials, Rama (2019) conducted a mixed-method research on fifteen Spanish language learners. The findings of this study showed that the introduction of varied collaborative language learning activities exerted a significant impact on students' self-efficacy and engagement. Low number of participants and inattentiveness to learning variables have been among drawbacks of this study. Furthermore, Oraif (2018) studied the impact of the flipped classroom on intrinsic motivation and learning outcomes in an EFL writing course. The findings of the study showed that flipped intervention promoted writing outcomes of the

experimental group compared with that of the control group. It was also revealed that the internal motivations of the students in the experimental group enhanced significantly in comparison with the non-flipped group.

The impetus to the study derives from previous phenomenographic and empirical research submitting repeated proofs on enormous weight of attitudinal and perceptional variables on performance of Iranian English learners in normative classes compared with educational variables. Since the flipped instruction, due to its distant and indirect nature, changes the settings of attitudinal variables more than other methodological transitions reported in the literature, the current research devotes itself to inquiring three of these learners' variables (autonomy, motivation, WTC) through both parametric and non-parametric tests in flipped instruction, aimed at arriving a solution to Iranian language learners' difficulties in removing affective filter, enhancing their self-confidence and self-sufficiency.

Methodology

Considering the question posed in the study, this research was an attempt to investigate the effect of standard and virtual models of flipped education on autonomy, motivation and willingness to communicate among Iranian language learners. To this aim, an experimental pre-test and post-test design was selected for this study.

Participants

The participants of the study were 63 intermediate language learners who were selected through convenience sampling from a language institute in the city of Birjand, previously enrolled in this channel through a standardized selection test. In order to reduce bias inherent in convenience sampling, demographic qualities of the participants were controlled based on diversified recruitment methods. Besides, some inclusion and inclusion criteria were employed to assure representativeness of samples such as age, gender and objectives for language learning. Finally, considering the twins of time and access, an as large as possible sample was used. Too, aimed at increasing generalizability of findings, both parametric and non-parametric data were collected. They were given TOEIC proficiency test and outliers were removed. Finally, 54 male and female language learners were selected for the experimental phase of the research and allocated randomly to two experimental groups and a control group. The demographic information of these groups is given in Table 3.1.

Table 1

The Demographic Information of Participants of the Study

Age	Experimental Group 1		Experimental Group 2		Control Group	
	Male	Female	Male	Female	Male	Female
15-23	10	8	11	6	10	9

Instruments

Taking the number of dependent variables into account, three different instruments were used in this research that are described below:

A) Willingness to communicate scale: To answer the question related to the effect of flipped education on WTC, the Willingness to Communicate in a Foreign Language Scale (WTC-FLS), developed by Baghaei (2011) was adopted and adapted (the three dimensions of the test became unified under one test) for this study. This scale is a questionnaire encompassing twenty items about the readiness of language learners to initiate communication under different circumstances, different contexts and with different people. This tool was a five-point Likert scale resulting in non-parametric

data. The construct validity of the instrument was estimated in the original study but the reliability of the adapted version was investigated in a pilot study on 20 freshmen in English language teaching in Birjand University.

B) Autonomy Scale: Dixon's scale of quantitative measurement of autonomy (2011) was selected for the purpose of investigating the effect of flipped classrooms on Iranian language learners' autonomy. This scale encompasses 50 items covering seven different factors of meta-cognition, linguistic confidence, information literacy, self-reliance, making choices, social comparisons, and levels of control. The tool resulted in parametric scores. The instrument was developed through structural equation modeling. The reliability of the scale was estimated through Person correlation and its validity was secured through sequential exploratory analyses.

C) Motivation Scale: Gardner's motivation test battery (1985) was adopted for the purpose of investigating the effect of flipped education on the motivation of Iranian language learners. This questionnaire encompasses 25 different items on a seven-point Likert scale which was changed into a five-point Likert scale in this study. This scale investigates both dimensions of motivation i.e. instrumental motivation and integrative motivation. Exploratory and confirmatory factor analyses were sued to validate the scale in the original research.

Procedure

In the pre-test of the study, three scales of WTC, autonomy, and motivation were administered to all groups (motivation, WTC, and autonomy scales). The parametric data obtained from the autonomy questionnaire were analyzed through one-way analysis of variance, and the non-parametric data collected were analyzed through Kruskal-Wallis one-way analysis of variance. The assumptions of normality, sample-independence, variance equality, and, on top of that, the continuous nature of date for dependent variable were controlled and met. Ordinal data for dependent variables, sample adequacy, and independence of observations were major assumptions of Kruskal-Wallis, among some others, that were met in this research.

In the intervention phase which started at the very beginning of the fall semester (2019), all three groups underwent their respective instruction for twenty sessions. The control group underwent their regular instruction from the three beginning units of "Four Corners 3". Flipped experimental group one, too, received related materials including videos, PowerPoint files, and etc. prior to each session. Controlling students' comprehension of uploaded materials at the beginning of every session, eliciting their participation by fostering a competitive online environment, and tapping students' interests ensured students' engagement to a great extent. The prefabricated and validated materials were selected from the Four Corners series from the internet. Considering some internet limitations in the country, the Persian social network (Eitaa) was selected as the platform for sharing materials. Further discussion on materials was performed in class assisted by the teacher during the regular program of the institution. The second experimental group (virtual flipped class) however, received materials from the same network but online classes were held through "Net-Support School Professional" software that these learners had installed on their personal computers at home. This software allows learners to interact with teachers, record classes, or take pictures. Before the intervention, both experimental groups were instructed for one session to use both the application and the software in a direct class using a teacher-made power-point file entailing information for installing and using the application and the software. In the post-test, too, the same scales were administered to the groups, and the related parametric and non-parametric data were collected and analyzed through one-way analysis of variance and Kruskall-Wallis respectively. All participants were willing to participate in the study, informed consents were obtained and principles of results communications and confidentiality were preserved. The schematic representation of the procedure is shown in table 2.

Table 2

Schematic Representation of Procedures

Sample	Test	Group	Pre-test	Measure	intervention	Post-test	Measure
Whole N=63	OPT	EX1 N=18	Autonomy	ANOVA	20 sessions Inverted	Autonomy	ANOVA
			Motivation	K-W		Motivation	K-W
			WTC	K-W		WTC	K-W
		EX2 N=17	Autonomy	ANOVA	20 sessions Virtual	Autonomy	ANOVA
			Motivation	K-W		Motivation	K-W
			WTC	K-W		WTC	K-W
		CTRL N=19	Autonomy	ANOVA	20 sessions Classic	Autonomy	ANOVA
			Motivation	K-W		Motivation	K-W
			WTC	K-W		WTC	K-W

Results

A) Results of Autonomy Scale (Parametric data)

Dixon's scale of quantitative measurement of autonomy (2011) was selected for the purpose of investigating the effect of flipped classrooms on Iranian language learners' autonomy. This scale was administered in the pre-test and the data were entered into SPSS (Version 21) and analyzed by one-way analysis of variance. The obtained results are reported in the following tables.

Table 3

Analysis of Variance for Autonomy in the Pre-test

		Sum of Squares	df	Mean Square	F	Sig.
Autonomy	Between Groups	275.566	2	137.783	.490	.615
	Within Groups	14329.249	51	280.966		
	Total	14604.815	53			

Since data obtained on "Autonomy" were continuous, analysis of variance was used for analyzing them. The results and outputs of the ANOVA tests are shown in Table 3 which determines whether there is any significant difference between the means of the three groups. We can see that the significance value for autonomy is *0.615* (i.e., $p = 0.617$) which is above 0.05 and, therefore, there is not a statistically significant difference in the mean of scores between the different groups.

Also, motivation and WTC instruments were administered to students, and the ordinal data obtained were collected. In the next step, for the purpose of statistical manipulations and analysis, ordinal data were transferred into sample mean, entered into SPSS, and analyzed through Kruskall-Wallis (see table 4)

Table 4

Test Statistics for Dependent Variables

	WTC	Motivation
Chi-Square	1.369	1.990
Df	2	2
Asymp. Sig.	.504	.370

This table shows that the p values for both variables (WTC and Motivation) are more than 0.05 indicating that these three groups in the pre-test of WTC and Motivation did not perform differently. In sum, a Kruskal-Wallis test did not indicate a statistically significant difference in mean scores between the different groups of language learners, $\chi 2$ (2) = 1.369, p = 0.504 for WTC and $\chi 2$ (2) = 1.990, p = 0.370 for motivation. The findings also revealed the mean rank score of 30.50 for the standard flipped group, 27.68 for virtual flipped group and 24.50 for traditional group in WTC and 27.64, 31.32 and 23.95 for the groups in motivation scale respectively. In sum, these findings submitted robust statistical pieces of evidence on the parity of the groups in the pre-test. The same scales were administered to the three groups after the intervention. ANOVA outputs for the autonomy scale are presented below:

Table 5

ANOVA Output for Autonomy in the Post-Test

		Sum of Squares	df	Mean Square	F	Sig.
Autonomy	Between Groups	9426.756	2	4713.378	25.221	.000
	Within Groups	9530.947	51	186.881		
	Total	18957.704	53			

This table determines that there is a significant difference between the means of the three groups. We can see that the significance value for autonomy is 0.000 (i.e., p = 0.000), which is below 0.05 and, therefore, there is a statistically significant difference in the mean scores between the different groups. To identify where the difference lies, a post-doc was conducted.

Table 6

Post-Hoc Multiple Comparison for Autonomy in Post-test

Tukey HSD							
Dependent Variable	(I) Groups	(J) Groups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Autonomy	EX1	EX2	-2.667	4.623	.833	-13.83	8.49
		CTRL	26.281*	4.496	.000	15.43	37.14
	EX2	EX1	2.667	4.623	.833	-8.49	13.83
		CTRL	28.947*	4.564	.000	17.93	39.96
	CTRL	EX1	-26.281*	4.496	.000	-37.14	-15.43
		EX2	-28.947*	4.564	.000	-39.96	-17.93

It is indicated that there is a statistically significant difference in scores between the standard flipped classroom and traditional classroom (p = 0.000), as well as between the virtual flipped classroom and traditional classroom (p = 0.000). However, a statistically significant difference between the standard flipped classroom and the virtual flipped classroom (p = 0.833) was not seen. In sum, there was a statistically significant difference between groups as determined by one-way ANOVA (F (2, 51) = 25.221, p = 0.000). A Tukey post hoc test revealed that the difference is between a standard flipped classroom and a normative classroom as well as between a virtual flipped classroom and a traditional classroom. However, the post hoc revealed the difference between the virtual flipped classroom and a standard flipped classroom is not significant (p=0.833). The current study also intended to examine the effect of flipped education on participants' motivation and willingness to communicate. These scales were also administered to the groups in the post-test to investigate the effect of intervention.

Table 7

Test Statistics for Dependent Variables in Post-test

	WTC	Motivation
Chi-Square	32.317	32.261
df	2	2
Asymp. Sig.	0.000	0.000

This table shows that the p values for both variables (WTC and Motivation) are less than 0.05 indicating that these three groups in the post-test of WTC and Motivation have performed significantly different. In sum, a Kruskal-Wallis H test indicated a statistically significant difference in mean scores between the different groups of language learners, $\chi 2$ (2) = 32.317, p = 0.000 for WTC and $\chi 2$ (2) = 32.261, p = 0.000 for motivation.

This shows that mean rank score of 43.36 for the standard flipped group, 25.62 for the virtual flipped group, 14.16 for the traditional group in WTC, 43.39 for the standard flipped group, 31.32 for the virtual flipped group and 13.08 for the control group in the motivation scale are different in a statistically meaningful manner. Though these findings revealed a significant difference between the three groups on both variables, where the difference exactly lies stands in the need for further statistical manipulations because the Kruskal-Wallis H-test provides only a unitary view of the difference. This needs a post-hoc to be conducted. Therefore a multiple-comparison was conducted. Findings are shown in the following tables and figures.

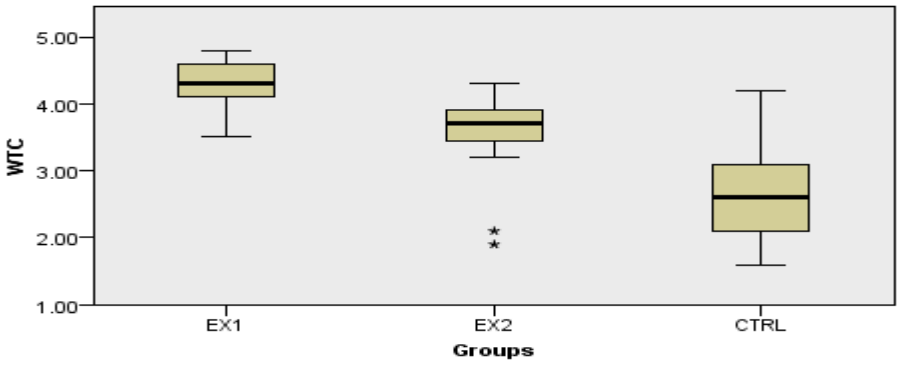
Table 8

Hypothesis Test Summary of Kruskal-Wallis (Asymptotic significances for Motivation and WTC

	Null Hypotheses	*Test*	*Sig*	*Decision*
1	The distribution of WTC is the same across categories of Groups	Kruskal-Wallis	0.000	Reject the null hypothesis
2	The distribution of Motivation is the same across categories of Groups	Kruskal-Wallis	0.000	Reject the null hypothesis

Figure 1

Visualization of Independent- Samples Kruskal-Wallis test for WTC



As shown in this figure, the mean rank for standard flipped classroom (EX1), virtual flipped classroom (EX2) and control group (CTRL) stands at different points of a Likert scale.

In this figure, each node indicates the mean rank of each group. In addition, the lines drawn between nodes show the significance of the differences between them. Accordingly, there is a significant difference between a standard flipped classroom (EX1) and a traditional group (CTRL).

Also, there is a significant difference between standard flipped classroom (EX1) and a virtual flipped classroom (EX2). However, the difference between a virtual flipped classroom (EX2) and a traditional classroom (CTRL) is not significant as the line drawn between them is colored differently. Pair-wise comparison statistics are also shown in the following table:

Table 9

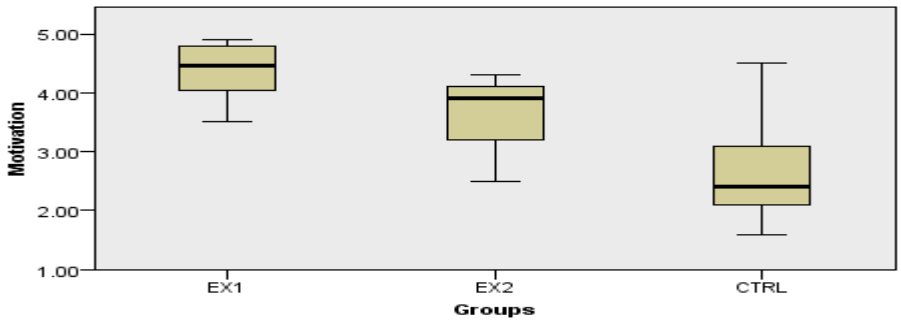
Pair-wise Comparison Statistics of Groups' Performance in WTC Post-test

Samples	Test Statistics	Std. E	Std. Test Statistics	Sig	Adj. Sig
CTRL-EX2	11.460	5.243	2.186	0.029	0.087
CTRL-EX1	29.203	5.166	5.653	0.000	0.000
EX1-EX2	17.743	5.311	3.341	0.001	0.003

The data presented in this table also shows that the difference between the control group (traditional classroom) and virtual flipped classroom is not significant (p=0.087) but the differences between these two groups and standard flipped classroom are significant (p=0.000 and p= 0.003, respectively). This means that the flipped classroom only promoted the willingness to communicate in the standard flipped classroom while virtual flipped classroom and normative classroom did not reveal a significant change. Similar analytical procedures were conducted for motivation to reveal the points at which difference lies. The obtained results are presented in the following tables and figures.

Figure 2

Visualization of Independent- Samples Kruskal-Wallis test for Motivation



Furthermore, the mean rank for standard flipped classroom (EX1), virtual flipped classroom (EX2) and control group (CTRL) stands at different points on a Likert scale. This, too, submits visual proofs on the significance of the differences between the three groups in the post-test of motivation.

As it is shown in this figure, each node indicates the sample average rank of each group. These findings are relatively different from those obtained in the WTC scale. The lines drawn between nodes show the significance of the differences between them. Accordingly, there is a significant difference between a standard flipped classroom (EX1) and a traditional group (CTRL). Also, there is a significant difference between a standard flipped classroom (EX1) and a virtual flipped classroom (EX2). Similarly, the difference between a virtual flipped classroom (EX2) and a traditional classroom (CTRL) is significant. To arrive at a statistical conclusion, pair-wise statistical comparisons are also presented in the following table;

Table 10

Pair-wise Comparison Statistics of Groups' Performance in Motivation Post-test

Samples	Test Statistics	Std. E	Std. Test Statistics	Sig	Adj. Sig
CTRL-EX2	14.774	5.239	2.820	0.005	0.014
CTRL-EX1	29.310	5.161	5.679	0.000	0.000
EX1-EX2	14.536	5.307	2.739	0.006	0.018

The data presented in this table also shows that the difference between the control group (traditional classroom) and virtual flipped classroom is significant (p=0.014). Also, the differences between the control group and the standard flipped classroom are significant (p=0.000). In addition to that, the difference between flipped groups was significant (p=0.018). This means that the flipped classroom promoted the motivation of both the standard flipped classroom and the virtual flipped classroom in comparison with the traditional classroom. Also, the findings revealed that the promotion of motivation in a standard flipped classroom was significantly higher than virtual flipped classroom.

Discussion

In this section, a brief review of discussions on autonomy, motivation, and WTC are presented. A) Autonomy: According to Finch (2000), a scant look at the literature on autonomy and language learning shows that autonomy is studied and examined in connection with language learning discipline from various angles of look. For instance, according to Benson (2001), those language learners who gain more autonomy learn more effectively than non-autonomous learners because the development of autonomy implies better language learning. Some research has been conducted on the relationship between autonomy and language learning amongst which are Ablard and Lipschultz (1998) and Zhang and Li (2004) suggesting that learner autonomy might help them to improve their language proficiency since it is highly positively correlated with learning and proficiency. More specifically, a number of studies have investigated the effect of flipped classrooms on learners' autonomy. Stating that flipped education exerts a positive effect on the autonomy of language learners, Strayer (2012), postulates that the development of autonomy in flipped education might be attributed to the nature of the flipped classroom where the centrality of educational activities is shifted to the learners. Based on Touchton (2015), the development of autonomy in flipping resides in the fact the flipped classroom shifts the emphasis in class to discussing material. Besides, Moffett (2015) believes that the growth in autonomy of language learners is due to the fact that learning in the flipped classroom is an active process. The findings of the current research produced evidence for these findings. In sum, the post-test results revealed the meaningful effect of flipped instruction on learners' autonomy by placing them and their needs at the core of language learning by releasing teacher's responsibility in favor of students and instilling independence in them through gradual release of responsibility and heuristic learning to them through out-of-class assigned tasks. In the present study, despite the fact that materials were selected from the *Four Corners* series, immediate needs and interest of students were taken into account for selecting materials and tasks from a repertoire of items of the same source in the form of negotiated assignments during the intervention. These findings are in line with Muldrow (2013) who states that flipped learning targets learners' needs and therefore enhances their autonomy by blending technology with technique. Furthermore, letting students have control over learning and showing respect for and trust in "unique individuals who require a unique education are other merits of flipped classrooms in favor of autonomy reported by Aaron and Bergmann (2012). The finding particular to this study was that both forms of flipped instruction promoted autonomy to significant extent as compared to normative classes.

B) Motivation: A good bulk of research has proved that motivation plays a significant role in learning and consequently, in achievement and performance (Brown, 2006; Dörnyei & Thurrell, 1994; Gardner, 2010; Wang, 2009). According to Gilakjani et al. (2013), those teaching practices which target the psychological needs of language learners and promote their satisfaction with instructional processes, increase learners' motivation, and result in the promotion of learning. As it was discussed above, the flipped education approach is an endeavor toward fulfilling students' needs (educational and psychological) and interests. So, we can conclude that the positive impact of the flipped classroom on the significant promotion of motivation in the experimental groups has its roots in the very fact that in a flipped classroom needs and interests are satisfied. As a result, a motivated learner is willing to invest effort in learning and stimulate their peers in the classroom (Oroujlu & Vahedi, 2011). Thus, promotion of motivation and consequent development of learning are possible results of flipping in the Iranian context. From another angle of look, these findings are in line with Dörnyei and Ushioda (2010), who

stated that motivation can be both a cause or an effect of learning but review of literature shows that motivation directly impacts major factors of learning in the language classroom, such as learning strategies and the level of interaction with native speakers (Oxford & Shearin, 1994). Theoretically speaking, too, the findings of this section are tuned with some of those studies on motivation which are built upon propositions of self-determination theory and cognitive load theory. Thus, the positive impact of flipped classroom on enhancing learners' motivation, as proved in this study, can be explained from several perspectives. The first one is the gradual strengthening of self-confidence and self-directedness in the learner (Strayer, 2012). The second point is the opportunity that is created for learners to participate actively, which could result in strengthening motivation among learners (Oraif, 2018). Thirdly, a decreased habit of reliance among learners is another factor that promotes the motivation of language learners in the flipped classroom (Bergmann & Sams, 2012). The fourth feature of a flipped classroom that can strengthen learners' motivation is the opportunity that is given to the learners to manage their learning (Oraif, 2018, p.123).

C) Willingness to communicate: When we are talking about the efficiency of flipped classrooms in strengthening learners' WTC, several factors can be considered. The personality of the learners could be a critical factor in the relationship between the flipped classroom and learners' autonomy and motivation. This can also be the case with learners' WTC in a flipped classroom. Because of their personalities, some learners have a high degree of WTC. In fact, this can be a fixed part of their personalities. On the other hand, some learners have a very low tendency to communicate. A flipped classroom creates a situation in which these two groups of learners could work together. The important point is to create a balance in the classroom and in the groups that are formed for outside-classroom activities. In outside-classroom activities, those learners who enjoy a high degree of WTC can help those who have a low degree of WTC. In order to achieve this objective and create a balance in the groups, the formation of the groups must be done carefully. If all members of an outside-classroom group have low degrees of WTC, that group may not perform well in its activities. On the other hand, if a combination of opposite groups is included in an outside-classroom group, learners can help each other effectively. It can be seen as a tool to achieve objectives and to help learners to become even more independent. According to Mesgarshahr and Abdolahzade (2014) earliest studies on this construct investigated the roots of unwillingness to communicate and found that a number of psychological, social, contextual, situational, and linguistic variables impact upon the degree to which an individual is willing to communicate with a particular person at a particular time. Considering the fact that in the current research the findings produced evidence on the statistically significant effect of flipped instruction, we can state that this effect might be associated with lower anxiety in the flipped environment due to previous familiarity of students with contents and materials. In this way our findings are in line with Dörnyei and Thurrell (1994) who stated that less communication apprehension in the classroom results in the enhancement of WTC because the fear of engaging in interaction adversely affects learners' WTC but the fear might be alleviated when a learner feels that he is placed in a supportive environment such as flipped classroom. The findings of this study are also in line with Clement (1986) which states that a condition in which self-confidence is supported, willingness to communicate increases. In addition, these findings support Skehan (1998) who stated that psycho-linguistically comforting environments promotes willingness to communicate. It was discussed above that flipped classroom is a psycho-linguistically comforting environment in comparison with traditional models of teaching.

Conclusion and Implications

The results of the study showed that flipped instruction is a viable tool for remedying a number of identified problems in the performance of language learners and autonomy, motivation and WTC of Iranian language learners. However, this stands in the need of observing the rules and suggestions of employing flipped instruction in a real educational context. Therefore, teachers are strongly recommended to raise their knowledge and training on performing flipped instruction in the real classroom. This can be done through in-service courses and even self- study. The findings of the current

research have implications for language teachers, at least, in two ways; 1) teachers find that some of the learning problems in Iranian context such as unwillingness to communicate or autonomy of language learners can be treated by conducing appropriate models of flipped instruction because this innovatory approach has its roots in some of profound theoretical foundations of learning such as Vygotskian socio-cultural theory. The presented models of flipped instruction in this study provided language teacher with a good opportunity to develop both learning and learner variables 2) by adopting these model of flipped instruction, teachers find problematic areas of language learners and deal with them with appropriate feedbacks while in the traditional classroom context teachers do not find enough time to focus on problem identification. Also, flipped environment is in way that many of learner-related problems are treated automatically as discussed above. Furthermore, the information obtained in this study raises teacher awareness on the quality and type of teaching strategies used in the classroom, either in a flipped classroom or regular instructions.

Acknowledgement

We profusely thank all those students and teachers who helped you conduct the research.

Declaration of Conflicting Interests

We declare that we do not have any conflicts of interest to declare.

Funding Details

This research did not receive any funding from any agency.

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