

The Effect of Task Type on Motivational Fluctuations: The Case of Iranian EFL Senior High School Learners

Research Article

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Abstract

Previously regarded as a static concept, motivation has now come to be viewed as an entity which is permanently in a state of flux. The dynamic nature of motivation and the concept of motivational fluctuations became widespread as complex dynamic systems theory (CDST) gained more popularity and credence among scholars in sciences and then gradually in the field of applied linguistics. Inspired mainly by this current view of motivation as a dynamic phenomenon, the present study sought to investigate the potential role of task type in motivational fluctuations experienced by EFL learners at the high school. In so doing, the possible role of gender was also taken into consideration. To gather data, the researchers

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made use of Motometer as a commonly used device for gauging learners' self-reported levels of motivation over time as well as interviews. In line with the findings, task type was shown to be a major determiner of motivational changes. Among the three tasks implemented in the study, task 2 with a problem-solving focus was characterized as the most inspiring for learners followed by task 3 which was a picture-prompted task. Furthermore, as regards the second research question, gender was found to be of no significance during task performance. The study is thought to have fruitful implications for all educational stakeholders, particularly in the context of secondary education, as well as in language school settings.

Keywords: motivation, motivational fluctuations, motometer, senior high school learners, task type

Introduction

Motivation is regarded as a key variable in educational psychology and language pedagogy, as well as a focal determiner of success in language learning (e.g., Al-Hoorie & MacIntyre, 2019; Bernaus & Gardner, 2008; Chalak & Kasasian, 2010; Dörnyei, 1998, 2005, 2009a; Gardner, 2010; Lamb et al. 2020). Though a deep-seated concept in education, motivation historically used to be regarded as a static entity, which could be spurred in learners generally by means of external stimuli (e.g., Williams & Burden, 1997). Thus, viewing motivation as a dynamic concept which is always in a state of flux, according to complex dynamic systems theory (CDST, see for example Larsen-Freeman, 2019), is a quite recent phenomenon.

Among the researchers who have centered on this dynamic nature of motivation, mention can be made of Pawlak (2012), Pawlak et al. (2014), and Waninge et al. (2014). As Pawlak (2012) elaborates, only quite recently has research on motivation come to terms with dynamic character of motivation, delving into the fluctuations occurring in motivational intensity over different time intervals. This renovated perspective toward motivation as a changing, dynamic entity, according to Waninge et al. (2014), has come to be increasingly endorsed by scholars and researchers in the field.

Having its roots in CDST and emergentism (de Bot, 2008; Dörnyei, 2009b; Jessner, 2008; Larsen-Freeman, 2006; Larsen-Freeman & Cameron, 2008; Mercer 2011; Verspoor et al. 2008), dynamic view of motivation, as Waninge et al. (2014) state, rests upon three key pillars, namely *change*, *stability* and *context*. In the tripartite model of dynamic motivation offered by Waninge et al. (2014) motivation is said to be in a permanent state of flux. Nevertheless, motivation like other dynamic systems is said to be prone to reach a settled, stable state, known as attractor state in its developmental path. At this point, learners' behavior ensuing from their motivation starts to get more hardwired and entrenched. The third component of motivation as a dynamic system, context,

plays a key part in moving back and forth between dynamicity and stability and in striking a balance between the two states.

A brief glance through the history of probes into motivation helps reveal that the greatest bulk of research in this regard has addressed issues like motivational types and orientations only in a static manner. Though in the current decade, an increasing number of researchers have embarked on investigating the dynamicity of motivation (e.g., Pawlak, 2012; Pawlak et al. 2014; Waninge et al. 2014), there is still a dire need for further in-depth studies to divulge the true nature of motivational fluctuations. Furthermore, few researchers, if any, have explored the viable effect of task type on motivational changes in learners over time. Striving to fill in the mentioned gap, the researchers in the current study probed the effect of different task types on motivational fluctuations among Iranian EFL senior high school learners.

Literature Review

Motivation is indubitably a key prerequisite for learning a foreign or second language (e.g., Dörnyei, 2005; Lai, 2011). As Dörnyei and Skehan (2003, p. 614) maintain, “motivation is responsible for *why* people decide to do something, *how long* they are willing to sustain the activity, and *how hard* they are going to pursue it.” Likewise, as Dörnyei (2005, p. 65) puts it, “motivation is of great importance in SLA: It provides the primary impetus to initiate L2 learning and later the driving force to sustain the long and often tedious learning process.”

The main challenge facing teachers is providing for motivational sustainability. Indeed, making learners motivated in the process of learning is in itself a serious challenge to most learning environments, but sustaining the motivation sparked in learners is a more demanding issue in need of further deliberation (e.g., Williams & Burden, 1997). Though motivation in the learning context has long been in the foreground of attention of educational researchers (e.g., Jin, 2014), the concept of motivation has mostly been regarded as a static and stable entity.

The concept of ‘task motivation’ as one of the fundamental cornerstones of the present study has been characterized in a number of different ways throughout the history. Traditionally, it was construed “as the sum of trait and state motivation, with the former referring to stable and enduring motivational dispositions that are largely task-independent, while state motivation concerns largely task-dependent, situation-specific motives that are thus transitory and temporary motivational responses or conditions” (Dörnyei, 2019, p. 56).

However, taking a more progressive perspective, Dörnyei (2019) characterizes task motivation as a multifaceted construct which entails a complex interplay between various learner-related, context-specific and task-driven factors. Among the ‘learner-specific factors’, he refers to the prominent role of personality characteristics, learner competence and the like. As regards ‘learning situational factors’, task motivation, according to Dörnyei, is influenced by a variety

of factors including the influence of teacher, group dynamics and environmental variables. Finally, ‘task-related factors’ comprising different task features, such as its content, structure and outcome, are the last influential variable in determining the degree of task motivation.

Dynamic view of motivation as a new outlook arising out of the attempts made by researchers like Dörnyei (2001, 2005), Ortega (2009), Pawlak (2012), Pawlak et al. (2014), and Waninge et al. (2014) has paved the way, in recent years, for a more thoroughgoing analysis of learners’ motivation with an eye on the viability of motivational fluctuations over time. As Hiver and Papi (2020, p. 125) maintain, “contributions from complexity to the study of L2 motivation have been methodological, as an aid to designing programs of research that prioritize adaptive and developmental processes.” Though researchers are increasingly becoming interested in exploring the minutiae of motivational fluctuations, probes into dynamic nature of motivation are still scant and inconclusive. Nevertheless, in what follows, the researchers strive to present a brief overview of the available body of literature on the issue.

At the outset of the current decade, Campbell and Storch (2011) conducted an investigation into motivational fluctuations occurring to university students learning Chinese as a foreign language over a period of one semester at an Australian university. Data were elicited mainly through semi-structured interviews. Based on their findings, learning environment factors were the most important variables which had impacted motivation both in a positive and negative sense. Moreover, the findings indicated that employing strategies to bolster learners’ sense of L2 selves may help learners overcome negative experiences, and continue with the enterprise of L2 learning.

In a later analysis, Azarnoosh et al. (2015) explored the longer-term fluctuations in learners’ motivation. In addition, the role of other factors such as learners’ age groups, learning environment and socio-cultural context in spawning different motivational patterns was also taken into account by the researchers. Using the questionnaire devised and validated by Taguchi et al. (2009), they found that though students at all levels had positive motivational dispositions, high school students enjoyed a lower motivational level compared to university students.

Pawlak’s study (2012), on the other hand, aimed to explore the temporal variation in the intensity of the motivation of Polish vocational senior high school learners. Selecting a sample of 28 Polish senior high school learners, Pawlak embarked on a survey over a period of 4 weeks. To apply triangulation, the researcher made use of a number of instruments, including a motivation questionnaire containing 42 6-point Likert-scale items, interviews with 11 students, a motivational grid, an evaluation sheet, a questionnaire for the teacher and detailed plans of the three lessons which were provided by the teacher. The results provided evidence for the fact that both the nature and magnitude of motivation are non-stable and subject to change over time.

In their probe into dynamic nature of motivation, Waninge et al. (2014) selected four students including two males and two females in an attempt to run

an intensive, individual-level microanalysis. Spanning over a two-week period, the study benefited from 'Motometer', a classroom observation form, and a motivation/attitude questionnaire. The results provided a clear illustration that student motivation is susceptible to variation, even on a rather short time scale.

In terms of research objectives and focus, MacIntyre and Serroul's (2015) investigation might be said to fall more on a par with the current study aims. Their study also centered on motivational fluctuations during task performance. Using a variety of instruments, including oral tasks and idiodynamic ratings, they tapped into the possible changes occurring in task motivation based on approach-avoidance ratings. The findings pointed toward a high degree of variability in the participants' ratings of their motivation. Furthermore, a strong correlation was reported between the learners' can-do ratings and their idiodynamic mean scores.

In a later probe, Yaghoubinejad et al. (2016) studied the motivational fluctuations of a cohort of Iranian EFL learners over time. Using a three-phase semi-structured interview, they came up with a great extent of motivational variability across time. These changes in learners' motivation were reported to be caused by several factors, including the amount of enjoyment, internal motives, and learners' future prospect. Thus, enhancing learners' future image and increasing the degree of task motivation were pinpointed as two effective factors contributing to more positive motivational fluctuations.

Finally, Mohammadzadeh (2019) conducted a research about motivational fluctuations during task-supported language teaching. Furthermore, the study strove to investigate the potential differences between the teacher's and the learners' evaluations of classroom motivation. As its last objective, the research aimed to compare self-reported motivation levels in TSLT and non-TSLT groups. A total of 13 language school learners participated in the study. Next, the participants were divided into two groups dubbed TSLT and non-TSLT in line with the aims of the study. Following the lead of the previous studies like Waninge et al. (2014), the research made use of lesson plans, Motometers, teacher observation sheets, and semi-structured focus group interviews. The findings revealed that motivation is susceptible to change under the influence of some factors such as instructional focus, learners' dispositions on a particular day, group dynamics, the teacher's motivational state, and a number of contextual variables like the day of the week, and school schedule. Moreover, the findings culminated in the inconsistency between the teacher-researcher's and the students' evaluations of motivation for each classroom session. Furthermore, higher levels of motivation were observed in the TSLT group during the investigation of diverse parts of language such as listening, reading, and grammar.

As stated earlier, probes into dynamic nature of motivation are still scant and the results are inconclusive. Most motivation-oriented research, to date, has looked upon the phenomenon as a stable concept. The potential effect of task type on motivational changes in learners over time is another under-researched area in need of further exploration. Informed by this gap in the lit-

erature, hence, the researchers in the current study delved into the possible effect of task type on learners' motivational fluctuations. In so doing, the role of gender was also explored. In line with the research objectives stated above, the following two research questions were formulated.

RQ1: Does task type have any significant effect on motivational fluctuations among Iranian EFL high school learners?

RQ2: Does gender play a role in motivational fluctuations resulting from being exposed to different task types?

Method

Design of the Study

The current study enjoyed a mixed methods design, in that it drew on both quantitative and qualitative data. As the quantitative phase preceded and was complemented by the qualitative one, in line with Creswell and Plano Clark's (2011) taxonomy the study followed explanatory sequential design of mixed-methods research. The quantitative phase of the study relied on causal-comparative design, in which the potential impact of task type on learners' motivational fluctuations was probed. Thus, the independent variable of research was task type and the dependent variable was changes in learners' motivational state. In the qualitative phase, however, interviews were conducted to tap into learners' perceptions about the role of task type in sparking motivation.

Participants

To conduct the study, a total of 40 Iranian senior high school learners were selected as the participants. The learners were at the eleventh grade of senior high school and aged around 17. Both genders were included in the study. For recruiting participants, two senior high schools in Boukan were targeted (one for males and the other for females). Though at first 20 students were selected from each gender, the final number of participants was reduced to 36 (19 males and 17 females) due to some incomplete answers given by a number of participants.

Instrumentation

The main means of data collection for the current study was Motometer. The instrument was an adapted version of the tool utilized by Waninge et al. (2014), and was intended to tap into learners' self-ratings of their motivation levels at different time intervals during the same task, as well as across different tasks. Like the original device, the Motometer used in the current study fell on a scale of 0 (low motivation) to 100 (high motivation). However, unlike the original instrument which elicited motivational fluctuations in a time interval of 5 minutes, the current study analyzed motivational changes in one-minute intervals.

Data Collection Procedure

As stated earlier, the researchers in the current study embarked on pinpointing the potential effect of task type on motivational fluctuations among Iranian EFL high school learners. To gather data, the study made use of Motometers as the main means of data collection. In doing so, 40 Iranian senior high school learners were selected as the study participants (it is worth reiterating that the final number of participants was reduced to 36). Successive to briefing the participants regarding the research objectives, the researchers gave them three types of tasks (fill-in-the-blank, problem solving and picture prompt) to perform on. During the process of task completion, they were expected to report their level of motivation using the research tool, i.e. Motometer.

It is worth noting that the logic behind the selection of these task types was the degree of involvement each one engendered in learners. Thus, it was postulated that fill-in-the-blank type is likely to bring about the lowest level of engagement and hence spark lower levels of motivation. On the other hand, picture prompt and problem solving tasks were posited to produce higher levels of involvement, interest and motivation. Having these postulations in mind, the researchers provided the required guidelines for the learners concerning how the Motometers are to be filled at 1-minute time intervals (it is worth reiterating that the time interval in the current study was reduced from five to one minute, mainly owing to the short duration of each task). An attempt was also made to make the process as unobtrusive as possible to let the learners proceed with the normal procedure of task completion.

Data Analysis

To analyze the data, use was made of SPSS (version 22). To be more specific, in dealing with the first research question which investigated the possible effect of task type on motivational fluctuations among Iranian EFL high school learners, the nonparametric equivalent of one-way ANOVA (Kruskal Wallis test) was run. This decision was made due to lack of normality in the distribution of scores. Furthermore, regarding the second research question exploring the role of gender in motivational fluctuations resulting from being exposed to different task types, the non-parametric equivalent of independent samples t-test (Mann Whitney U test) was utilized. In dealing with the interview data, frequencies and percentages were used to tabulate learners' attitudes concerning task motivation.

Results

Findings Obtained for Research Question One

The first research question of the study probed the possible effect of task type on motivational fluctuations among Iranian EFL high school learners. To analyze this research question, initially the scores obtained on three tasks were screened in terms of normality of distribution. Table 1 illustrates the results of

normality tests (Kolmogorov-Smirnov and Shapiro-Wilk) for the three tasks at different time intervals (minutes 0-1, 1-2, 2-3, 3-4, and 4-5).

Table 1

Normality Test Results Obtained for the Three Tasks at Different Time Intervals

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Minute (0-1)	.159	108	.000	.934	108	.000
Minute (1-2)	.139	108	.000	.938	108	.000
Minute (2-3)	.157	108	.000	.907	108	.000
Minute (3-4)	.179	108	.000	.886	108	.000
Minute (4-5)	.213	108	.000	.881	108	.000

a. Lilliefors Significance Correction

As is evident from the table, the obtained *p*-value is lower than .05 in all cases, and hence the distribution of data violates the conditions for normality. In line with the obtained results, the non-parametric equivalent of one-way ANOVA (Kruskal Wallis Test) was used to compare the means for three tasks. Tables 2 and 3 illustrate the obtained mean ranks and Kruskal-Wallis statistics for three tasks during minute 0-1.

Table 2

Mean Ranks Obtained for Three Tasks During Minute 0-1

	Task	N	Mean Rank
Minute (0-1)	Task 1	36	53.81
	Task 2	36	61.81
	Task 3	36	47.89
	Total	108	

As is evident from Table 2, the mean ranks obtained for tasks 1, 2 and 3 are 53.8, 61.8 and 47.8, respectively. Therefore, the highest mean rank gained belongs to task 2, and the lowest one is that of task 3. However, to see whether these differences are statistically significant, Kruskal-Wallis results in Table 3 are consulted.

Table 3

Kruskal-Wallis Results Comparison of Three Tasks During Minute 0-1

	Minute (0-1)
Chi-Square	3.683
df	2
Asymp. Sig.	.159

a. Kruskal Wallis Test
b. Grouping Variable: Task

As Table 3 illustrates, the obtained p -value is not statistically significant ($p = .15 > .05$). Thus, the differences between the mean ranks of three tasks during the first minute are non-significant. Tables 4 and 5 illustrate the obtained mean ranks and Kruskal-Wallis statistics for three tasks during minute 1-2.

Table 4
Mean Ranks Obtained for Three Tasks During Minute 1-2

	Task	N	Mean Rank
Minute (1-2)	Task 1	36	59.31
	Task 2	36	47.33
	Task 3	36	56.86
	Total	108	

As is seen in Table 4, the mean ranks obtained for tasks 1, 2 and 3 equal 59.3, 47.3 and 56.8, respectively. Therefore, the highest mean rank gained belongs to task 1, and the lowest one is that of task 2. However, to see whether these differences are statistically significant, Kruskal-Wallis results in Table 5 are consulted.

Table 5
Kruskal-Wallis Results Comparison of Three Tasks During Minute 1-2

	Minute (1-2)
Chi-Square	3.009
df	2
Asymp. Sig.	.222
a. Kruskal Wallis Test	
b. Grouping Variable: Task	

As Table 5 shows, the obtained p -value is not statistically significant ($p = .22 > .05$). Thus, the differences between the mean ranks of three tasks during the second minute are non-significant. Tables 6 and 7 illustrate the obtained mean ranks and Kruskal-Wallis statistics for three tasks during minute 2-3.

Table 6
Mean Ranks Obtained for Three Tasks During Minute 2-3

	Task	N	Mean Rank
Minute (2-3)	Task 1	36	51.36
	Task 2	36	56.19
	Task 3	36	55.94
	Total	108	

As Table 6 shows, the mean ranks obtained for tasks 1, 2 and 3 equal 51.3, 56.1 and 55.9, respectively. Therefore, the highest mean rank gained belongs to task 2, and the lowest one is that of task 1. However, to see whether these differences are statistically significant, Kruskal-Wallis results in Table 7 are consulted.

Table 7*Kruskal-Wallis Results Comparison of Three Tasks During Minute 2-3*

	Minute (2-3)
Chi-Square	.560
df	2
Asymp. Sig.	.756
a. Kruskal Wallis Test	
b. Grouping Variable: Task	

Based on Table 7, the obtained p -value is not statistically significant ($p = .75 > .05$). Thus, the differences between the mean ranks of three tasks during the third minute are non-significant. Tables 8 and 9 illustrate the obtained mean ranks and Kruskal-Wallis statistics for three tasks during minute 3-4.

Table 8*Mean Ranks Obtained for Three Tasks During Minute 3-4*

	Task	N	Mean Rank
Minute (3-4)	Task 1	36	53.22
	Task 2	36	56.04
	Task 3	36	54.24
	Total	108	

As is evident from Table 8, the mean ranks obtained for tasks 1, 2 and 3 equal 53.2, 56.04 and 55.24, respectively. Therefore, the highest mean rank gained belongs to task 2, and the lowest one is that of task 1. However, to see whether these differences are statistically significant, Kruskal-Wallis results in Table 9 are consulted.

Table 9*Kruskal-Wallis Results Comparison of Three Tasks During Minute 3-4*

	Minute (3-4)
Chi-Square	.156
df	2
Asymp. Sig.	.925
a. Kruskal Wallis Test	
b. Grouping Variable: Task	

As Table 9 illustrates, the obtained p -value is not statistically significant ($p = .92 > .05$). Thus, the differences between the mean ranks of three tasks during the fourth minute are non-significant. Tables 10 and 11 illustrate the obtained mean ranks and Kruskal-Wallis statistics for three tasks during minute 4-5.

Table 10*Mean Ranks Obtained for Three Tasks During Minute 4-5*

	Task	N	Mean Rank
Minute (4-5)	Task 1	36	47.54
	Task 2	36	50.82
	Task 3	36	65.14
	Total	108	

As Table 10 indicates, the mean ranks obtained for tasks 1, 2 and 3 equal 47.5, 50.8 and 65.1, respectively. Therefore, the highest mean rank gained belongs to task 3, and the lowest one is that of task 1. However, to see whether these differences are statistically significant, Kruskal-Wallis results in Table 11 are consulted.

Table 11

Kruskal-Wallis Results Comparison of Three Tasks During Minute 4-5

	Minute (4-5)
Chi-Square	6.654
df	2
Asymp. Sig.	.036
a. Kruskal Wallis Test	
b. Grouping Variable: Task	

According to Table 11, the obtained p -value is not statistically significant ($p = .03 < .05$). Thus, the differences between the mean ranks of three tasks during the fifth minute are found to be significant.

Interview Results

To consolidate the findings and triangulate data collection procedure, the researchers also ran an interview with the participants. The main questions raised in the interview were as follows:

- 1) In which of the activities, did you feel more motivated? Why?
- 2) At which time during each task, did you feel the highest level of motivation? Why?

As regards the first interview question seeking the most inspiring task, as the results indicated, the majority of participants had opted for task 2 which was a problem-solving task. The next type of task that was reported to have sparked more motivation was task 3 (a picture-prompted task). It is worth noting that since some of the participants had chosen two tasks as more motivating, the frequency of responses for the first interview question amounted to 56. Table 12 shows the frequencies and percentages reported for each of the three tasks in terms of the perceived power of tasks for inspiring motivation.

Table 12

The Frequencies and Percentages of Different Tasks Perceived as More Inspiring

Task	Frequency	Percentage
1	3	6.5%
2	29	63%
3	14	30.5%

The principal reasons referred to by the interviewees for choosing task 2 (problem-solving task) as the most motivating and task 3 (picture-prompted task) as the second most inspiring task are listed in Table 13.

Table 13

The Frequencies and Percentages of Different Reasons Mentioned by Learners as the Characteristics of More Inspiring Tasks

Characteristics	Frequency
Challenging nature and level of difficulty	22 = 47%
Ease of the task and convenience	11 = 23%
Encouraging and exciting nature of the task	6 = 13%
Novelty, newness and being up-to-date	4 = 8.5%
Authenticity and genuineness	4 = 8.5%

As is seen in the table, the challenging nature of task was mentioned as the key factor – with the highest frequency (22) and percentage (47%) – giving rise to motivational appeal created by the task. The second reason underlying task appeal, in line with the interviewees’ responses, was ease of task and its convenience. However, novelty and authenticity of the task were found to be the least influential factors in this regard from the participants’ perspective (both enjoying the same frequency and percentage, i.e. 4 and 8.5, respectively).

As regards the challenging nature of tasks, one of the respondents maintained that he had chosen task 2 as the most motivating because it contained “*good and mental questions related to the mind*”; another said she found task 2 more inspiring because it “*was thoughtful and challenging*” a third participant who had selected both tasks 2 and 3 as appealing justified her choice by uttering that tasks 2 and 3 “*needed more focus and task 1 was old-fashioned*”. Concerning the second factor, i.e. task ease and convenience, one of the participants explained he had chosen task three as it included “*easy questions based on connection with environment*”. Regarding the other three factors, i.e. encouraging and exciting nature of the task, novelty, newness and being up-to-date, and authenticity and genuineness, the given responses were mostly short and telegraphic, and hence not quite appropriate to be mentioned in the form of extracts.

The second interview question was after pinpointing the part of the task (beginning, mid or end part) which sparked the highest amount of motivation from learners’ perspective. To do so, the entire time interval for performing on the tasks was divided to five separate time intervals, as Table 14 indicates. In line with the obtained results, minute 3-4 was selected as the time interval in task performance that engendered the highest degree of motivation, followed by minutes 2-3 and then 4-5. The conclusion that can be made out of this finding is that the initial phase of task did not produce as much motivation and involvement as the final minutes of the task.

Table 14
The Frequencies and Percentages of Different Task Involvement Time Intervals Perceived as More Inspiring

Min	Frequency	Percentage
0-1	2	5.5%
1-2	4	11%
2-3	8	21.5%
3-4	16	43%
4-5	7	19%

Findings Obtained for Research Question Two

The second research question of the study was after finding the role of gender in motivational fluctuations resulting from being exposed to different task types. In dealing with the second research question, the data obtained for each of the five minutes were analyzed separately. As the data violated the conditions for normality, to explore the second research question, the non-parametric equivalent of independent samples t-test (Mann Whitney U test) was used. Tables 15 and 16 indicate the results obtained for the effect of gender regarding task 1.

Table 15
Mean Ranks Obtained for the Role of Gender Regarding Task 1

	Gender	N	Mean Rank	Sum of Ranks
Minute (0-1)	Male	19	17.47	332.00
	Female	17	19.65	334.00
	Total	36		
Minute (1-2)	Male	19	16.97	322.50
	Female	17	20.21	343.50
	Total	36		
Minute (2-3)	Male	19	18.71	355.50
	Female	17	18.26	310.50
	Total	36		
Minute (3-4)	Male	19	17.29	328.50
	Female	17	19.85	337.50
	Total	36		
Minute (4-5)	Male	19	15.71	298.50
	Female	17	21.62	367.50
	Total	36		

As is seen in Table 15, the mean ranks obtained for males and females are 17.47 and 19.65 for minute 0-1, 16.97 and 20.21 for minute 1-2, 18.71 and 18.26 for minute 2-3, 17.29 and 19.85 for minute 3-4, and 15.71 and 21.62 for minute 4-5, respectively. Therefore, during all minutes except minute 2-3 females have reached higher mean ranks. However, to see whether these differences are statistically significant, Mann Whitney U test results in Table 16 were consulted.

Table 16*Mann Whitney U Test Results for the Role of Gender Regarding Task 1*

	Minute (0-1)	Minute (1-2)	Minute (2-3)	Minute (3-4)	Minute (4-5)
Mann-Whitney U	142.000	132.500	157.500	138.500	108.500
Wilcoxon W	332.000	322.500	310.500	328.500	298.500
Z	-.633	-.940	-.129	-.747	-1.703
Asymp. Sig. (2-tailed)	.527	.347	.898	.455	.089
Exact Sig. [2*(1-tailed Sig.)]	.552 ^b	.363 ^b	.900 ^b	.471 ^b	.093 ^b

a. Grouping Variable: Gender
b. Not corrected for ties.

As Table 16 shows, the obtained *p*-values are not statistically significant. Thus, the differences between the mean ranks of males and females during all minutes of learners' performance on task 1 are found to be non-significant. Then, to see the possible role of gender in motivational fluctuations during the performance on task 2, again Mann Whitney U test was run, the results of which are illustrated in Tables 17 and 18.

Table 17*Mean Ranks Obtained for the Role of Gender Regarding Task 2*

	Gender	N	Mean Rank	Sum of Ranks
Minute (0-1)	Male	19	20.39	387.50
	Female	17	16.38	278.50
	Total	36		
Minute (1-2)	Male	19	19.76	375.50
	Female	17	17.09	290.50
	Total	36		
Minute (2-3)	Male	19	15.47	294.00
	Female	17	21.88	372.00
	Total	36		
Minute (3-4)	Male	19	18.08	343.50
	Female	17	18.97	322.50
	Total	36		
Minute (4-5)	Male	19	15.29	290.50
	Female	17	22.09	375.50
	Total	36		

As is seen in Table 17, the mean ranks obtained for males and females are 20.39 and 16.38 for minute 0-1, 19.76 and 17.09 for minute 1-2, 15.47 and 21.88 for minute 2-3, 18.08 and 18.97 for minute 3-4, and 15.29 and 22.09 for minute 4-5, respectively. Thus, while males had a better performance during first two minutes, females outperformed males during the later minutes. However, to see whether the differences are statistically significant, Mann Whitney U test results in Table 18 were checked.

Table 18*Mann Whitney U Test Results for the Role of Gender Regarding Task 2*

	Minute (0-1)	Minute (1-2)	Minute (2-3)	Minute (3-4)	Minute (4-5)
Mann-Whitney U	125.500	137.500	104.000	153.500	100.500
Wilcoxon W	278.500	290.500	294.000	343.500	290.500
Z	-1.165	-.770	-1.863	-.260	-1.964
Asymp. Sig. (2-tailed)	.244	.442	.063	.795	.050
Exact Sig. [2*(1-tailed Sig.)]	.257 ^b	.452 ^b	.071 ^b	.802 ^b	.052 ^b

a. Grouping Variable: Gender

b. Not corrected for ties.

As Table 18 shows, the obtained *p*-values are not statistically significant (Except for the last minute of learners' performance on task 2). Thus, the differences between the mean ranks of males and females during most minutes of learners' performance on task 2 are non-significant. Next, to see the possible role of gender in motivational fluctuations during the performance on task 3, again Mann Whitney U test was run, the results of which are illustrated in Tables 19 and 20.

Table 19*Mean Ranks Obtained for the Role of Gender Regarding Task 3*

	Gender	N	Mean Rank	Sum of Ranks
Minute (0-1)	Male	19	20.26	385.00
	Female	17	16.53	281.00
	Total	36		
Minute (1-2)	Male	19	17.82	338.50
	Female	17	19.26	327.50
	Total	36		
Minute (2-3)	Male	19	19.03	361.50
	Female	17	17.91	304.50
	Total	36		
Minute (3-4)	Male	19	18.03	342.50
	Female	17	19.03	323.50
	Total	36		
Minute (4-5)	Male	19	16.29	309.50
	Female	17	20.97	356.50
	Total	36		

As is seen in Table 19, the mean ranks obtained for males and females are 20.26 and 16.53 for minute 0-1, 17.82 and 19.26 for minute 1-2, 19.03 and 17.91 for minute 2-3, 18.03 and 19.03 for minute 3-4, and 16.29 and 20.97 for minute 4-5, respectively. Based on the obtained mean ranks, it is found that while males had a better performance during minutes 0-1 and 2-3, females outperformed males during the other three minutes. However, to see whether the differences are statistically significant, Mann Whitney U test results in Table 20 were inspected.

Table 20*Mann Whitney U Test Results regarding the Role of Gender Regarding Task 3*

	Minute (0-1)	Minute (1-2)	Minute (2-3)	Minute (3-4)	Minute (4-5)
Mann-Whitney U	128.000	148.500	151.500	152.500	119.500
Wilcoxon W	281.000	338.500	304.500	342.500	309.500
Z	-1.074	-.418	-.322	-.292	-1.384
Asymp. Sig. (2-tailed)	.283	.676	.747	.771	.166
Exact Sig. [2*(1-tailed Sig.)]	.300 ^b	.684 ^b	.754 ^b	.778 ^b	.186 ^b
a. Grouping Variable: Gender					
b. Not corrected for ties.					

As Table 20 indicates, the obtained *p*-values are not statistically significant. Thus, the differences between the mean ranks of males and females during all minutes of learners' performance on task 3 are non-significant.

Discussion

The two fundamental objectives set in the current study were probing the role of task type in learners' motivational fluctuations and investigating the possible effect of gender in this regard. As the findings relevant to the first research question indicated, among the three tasks applied, task 2 (with a problem-solving orientation) and task 3 (a picture-prompted task) were characterized as the most motivating ones based on learners' motivational self-reports.

This finding partly corroborates the one obtained by Mohammadzadeh and Alavinia (in press), in that motivational fluctuations were similarly reported during task-supported language instruction. Nevertheless, a number of differences between their study and the current research are to be highlighted. First and foremost, the foci of the two studies were different, with the current study focusing on only task type as the main determining factor in motivational fluctuations, and their study focusing on motivational fluctuations within one single session of instruction as well as across consecutive sessions. Furthermore, the participants in their study were only females, whereas the ones used in the current study were from both genders. Additionally, the duration of involvement with the tasks was longer in their study compared to the current investigation. However, as regards instrumentation, both studies made use of Motometer and interviews for data collection.

The current finding also resonates with that of Pawlak (2012) who reported motivational fluctuations in the process of language learning. Though Pawlak was also interested in detecting the minute-to-minute fluctuations in learners' motivation, unlike the current investigation, his study wasn't concerned with task performance. Another distinction between this study and his related to the instruments employed for data collection. While the present study only relied on data gathered through Motometer and interview, Pawlak made use of a number of different data collection tools, i.e. questionnaire, interview, motivational grid, and evaluation sheet. He also involved the teachers by giving them a questionnaire.

Similar results were reported in a follow-up study by Pawlak et al. (2014), and in their probe into dynamic nature of motivation. Akin to Pawlak (2012), they also opted for triangulation via the application of motivational grid, evaluation sheet, questionnaire and interview. Their finding is hence in line with the current study owing to the fact that they also underscored temporal fluctuations occurring in learners' motivational levels. However, their focus was again not on task performance, and the duration of their study was for two weeks.

The findings for the first research question are also in keeping with those of MacIntyre and Serroul's (2015) who reported similar motivational fluctuations in task performance, though the instruments utilized by them, as stated earlier, were not the same as the ones employed in the current study. In much the same way, an equally large extent of variability in learning motivation was reported in Yaghoubinejad et al.'s (2016) study.

A further finding gleaned from the current research was the direct influence of task features on the degree of interest generated by the task. This result is in compliance with the one obtained by Mohammadzadeh and Alavinia (in press) as they also underscored the crucial role played by task features in motivating learners to perform on the task.

Another issue that was explored in the study concerned the task features resulting in higher levels of motivation among learners. Among the main factors referred to by participants as the key motivators were the challenging nature of task, ease of task and its convenience. Based on the findings of the present study, the degree of challenge created by the task was reported to be a key determiner of its appeal for learners.

As stated previously, the second task utilized in the study which had a problem-solving orientation engendered higher levels of motivation among learners. The reason underlying this is thought to be the potential of task challenge as a fundamental feature of a task in producing increased involvement for learners. In this regard, Kim et al.'s (2017) contention might look relevant as they regard active participation in task performance as a positive aspect of learning through tasks.

This finding, however, seems to be in contrast to what Kormos and Préfontaine (2017) reported in their study, as they claimed tasks taxing in terms of conceptualization demands, and hence challenging by nature, are likely to provoke negative affective feelings. The logical conclusion that might be made out of these findings is that challenge is an essential feature for the task to keep the learners motivated, but the extent of challenge created by the task is to be kept within control. In other words, in line with Kormos and Préfontaine's (2017) finding, excessive challenge and conceptual demand imposed on learners by the task may lead to their dissuasion and demotivation.

Moreover, as regards task duration, most learners had experienced comparatively higher amounts of motivation during the final moments of the task, rather than the initial phase. Though the researchers couldn't encounter direct evidence for substantiating the effect of task phase on motivational level, it ap-

pears that reaching the final moments of the task which both moves learners toward a sort of climax and gives them a sense of task completion can be the chief reason underpinning their augmented motivational levels.

Ultimately, concerning the second research question probing the role of gender in motivational fluctuations, no significant difference was found between males and females. This lack of difference between males and females in task performance might gain support from studies like Azkarai (2015) who worked on gender-based differences in learners' task-based performance and interaction. Though the foci of two studies were not exactly identical with the current study focusing on motivational fluctuations during task performance and hers dealing with task-based interaction, what the conclusions of both studies boil down to is insignificant gender differences in the process of task performance.

This finding, however, runs contrary to the finding obtained by Chung and Chang (2017) who reported significant differences in the state of learners' motivation induced by gender. Nevertheless, like their study which pointed to higher levels of motivation among female learners, the current study also found that females enjoyed a comparatively better status as regards motivation, but the observed differences between males and females in the present study were insignificant.

The current finding also corroborates those of Iwaniec (2019) who explored language learning motivation in light of gender. As she contended, females surpassed males in terms of learning motivation as regards measures of motivation like international orientation, ideal L2 self and self-regulation. Nonetheless, concerning other components of motivation including instrumentality, self-efficacy beliefs, English self-concept and intrinsic motivation, no significant difference was encountered between males and females. It must be noted that research findings concerning gender role in motivation and task performance are still inconclusive and more research is required to come up with more compelling results.

Conclusion, Implications and Suggestions for Further Research

The researchers in the current study strove to pinpoint the would-be role of task type in motivational fluctuations. Furthermore, the possible role gender might play in tampering with these motivational changes was also explored. In accordance with the obtained results task 2 which was a problem-solving task was demarcated as the most motivating and task 3 (a picture-prompted task) was demonstrated to be the second most inspiring task. In addition, gender was not found to be of significance as regards motivational fluctuations. In line with the findings of the current study, further evidence is gathered for the importance of task type in determining the level of learners' motivation. As learners' motivational self-reports through Motometers revealed, higher levels of

motivation were experienced by learners while dealing with more challenging tasks like problem-solving, as well as more intriguing ones such as picture-prompted tasks. This finding is to be taken into account by materials developers, syllabus designers and all other educational policy makers as a useful tool to bring about increased levels of learner motivation.

Task appeal might be regarded as a cornerstone of flow theory (Csikszentmihalyi, 1990) and the initial step for sparking motivation in the activity. Thus, to make learners more interested in what they are performing in the class, task challenge and appeal are to be taken into consideration by task designers. However, as probe into motivational fluctuations is still infrequent and inconclusive, a lot more research is required to find the role of different influential factors bringing about motivational changes in learners.

Future researchers may help shed more light on the body of research concerning motivational fluctuations and the key factors underpinning it. Among the major recommendations that can be offered for further investigation lie the use of a variety of other task types, say jigsaw tasks, consensus tasks, and other types of pictorial tasks (e.g., spot-the-difference task), to corroborate the findings thus gained, making use of a larger sample to augment generalizability, and replicating the current study with other groups of learners from other levels of proficiency. After all, research within the realm of motivation, particularly with the new outlook regarding it as a permanently dynamic, changeable notion, still seems to be in its infancy and hence delving into motivational fluctuations looks like sailing within the uncharted waters. Thus, coming up with more robust and conclusive results is in need of further research and investigation.

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