The Effect of Flow State on EFL Learners' Vocabulary Learning

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Abstract

Flow is an optimal psychological state that has been described at length by Csikszentmihalyi (1990, 1993) as a state in which people become totally immersed in an activity and enjoy it intensely. According to Csikszentmihalyi, such a peak experience can emerge in any situation in which there is an activity to do. Researchers have indeed found evidence for flow during the execution of a large number of different activities including sports, work, and playing music. However, state of flow during language learning activities has hardly been studied. The present study was designed to investigate the relationship between task-induced state of flow during vocabulary acquisition activities and the achievement in terms of short-term and long-term vocabulary acquisition. Sixty five learners at an English Language Institution took part in vocabulary acquisition tasks aimed at engaging learners cognitively and affectively in the state of flow. To measure flow state the "Flow Perceptions Questionnaire" in the Likert format (Egbert, 2003) was used. It was an instrument for gathering the data concerning students' affective responses during task engagement. The researcher-made retention measurement was used to determine vocabulary learning efficiency. The result indicated that flow existed in the vocabulary learning classroom and that there was a significant relationship between the level of flow state and vocabulary retention both in immediate and delayed measurements. Also male and female learners of EFL were different in terms of vocabulary retention resulting from flow state.

Keywords: Flow state; optimal experience; vocabulary learning; engagement

Introduction

In human psychology, motivation is a recurring key concept used to explain differences in individuals' behavior and the manner in which an individual's behavior is directed (Humphreys & Revelle, 1984) so that researchers consider motivation as the engine of every activity Motivation and its various dimensions make up one of the most important issues regarding language education. Numerous

studies have been conducted to investigate language learner's motivation. Motivational details of a language learning situation can have significant consequences for learners, notably affecting levels of engagement with learning activities and learning, achievement (Deci & Ryan, 1985; Sternberg, 2002). A language learning task that evokes a higher level of motivation will be prone to end up in higher level of achievement. Language learning motivation has a long history of research, from the traditional views set by Gardner to more recent understandings such as dynamic view of motivation mainly led by Dornyei and his colleagues (Dornyei, 2002). The flow theory is a new way of understanding motivation. First proposed by Csikszentmihalyi in 1975, it is conceived of as a distinct state of consciousness that integrates high but effortless concentration, intrinsic motivation, loss of awareness of self and clock time, facile response to challenge, and feelings of competence and freedom (Csikszentmihalyi, 1990, 1997). Flow theory claims that as a result of the intrinsically rewarding experience associated with flow, people push themselves to " higher levels of performance" (Csikszentmihalyi, 1990) that encourages them to engage in exploratory behaviors and to perform an activity repeatedly (Trevino & Webster, 1992). In this conceptualization, flow contributes to optimal performance and learning, and is a new way of understanding motivation.

According to the claims made by flow theory, people are happiest when they are in a state of flow, i.e., the state of concentration or complete absorption with the activity at hand and the situation. It is a state in which people are so involved in an activity that nothing else seems to matter (Csikszentmihalyi, 1990). The idea of flow is identical to the feeling of being in the "zone or in the groove" (Csikszentmihalyi, 1990, p. 17). The flow state is an optimal state of "intrinsic motivation", where the person is fully immersed in what he or she is doing.

Flow theory offers an interesting and useful framework for conceptualizing and evaluating language learning activities (Egbert, 2003). In the same vein, Dörnyei (2005) stated that "flow theory in SLA specifies the task conditions (balanced with individuals' skills, intense concentration, interesting and absorbing control in performing) under which flow can occur" (p. 82).

Individual differences and leaners' motivational orientation play significant roles in all aspects of second language acquisition including vocabulary acquisition which involves cognitive-affective processing of the input that becomes available to the learner. The details of cognitive processing of newly-exposed words depend to a large extent on design and performance features of the task in hand which, in turn, might lead to the long-term retention of words through deep affective-motivational engagement with the language learning task (Dornyei, 2002; Dornyei & Tseng, 2009). This study was an attempt to examine the effects of an affect-stimulated state of flow during language learning task performance on second language learning achievements in terms of vocabulary acquisition.

Review of the Literature

There have been numerous researches which show that language learning may be facilitated through situation-specific motivation in learners. Throughout history, psychologists and scientists have developed methodical approaches to explaining human motivation. According to Ryan & Deci (2000), motivation is of two types: 'Intrinsic Motivation' refers to doing something because it is inherently interesting or enjoyable, and 'Extrinsic Motivation' refers to performing a task since it leads to a separate desirable outcome. Intrinsic motivation is a key factor in motivation, where individuals engage in an activity purely as a means to an end. The leading researcher in the field of intrinsic motivation was Abraham Maslow. Maslow (1968) dubbed this type of motivation as a desire for 'self-actualization' which was "a need to discover one's potentialities and limitations through intense activity and experience" (Csikszentmihalyi 1988). Csikszentmihalyi was interested in this, but he wanted to focus on the quality of the subjective experience that made the behavior intrinsically rewarding. Also, he wanted to know how it

felt and why it was rewarding (Csikszentmihalyi 1988). This led him to conduct research on individuals who spent a lot of time in strenuous activities for which they received no external rewards. He studied amateur athletes, chess masters, rock climbers, high school basketball players, and composers of music (Csikszentmihalyi & Csikszentmihalyi, 1988). This research concluded that there was a common autotelic, or rewarding in and of itself, experience by all of the participants. This was called "flow", which is a type of intrinsic motivation. Flow experiences are characterized by the balance between challenge and skills and by a person's interest, control, and focused attention during a task. When people enter into flow states, they feel deep enjoyment, happiness, and exhilaration (Csikszentmihalyi, 1990).

The field of SLA was slow in establishing the application of flow theory. Schmidt and Savage (1992) studied the motivational states of Thai learners of English based on flow theory and compared participant's English learning experiences with other work and leisure activities. They were interested in the challenge/skills balance offered by each activity and during which flow would occur. Flow did occur in many contexts for these learners, including their English learning experiences both within and outside of class. In another study, Schmidt, Boraie & Kassabgy (1996) reported that Egyptian EFL learners also experienced flow during learning tasks. Egbert (2003) was the first to study the role of flow in second language acquisitional processes. Egbert (2003), who focused on the relationship between task type and flow, found that tasks involving email and chat on the Internet evoked a higher level of flow compared to such tasks as 'reading out loud' and 'listening to and discussing a reading passage'. Egbert (2003) adopted and proposed four dimensions to the flow experience in SLA task performance including 1) the balance between challenge and skills 2) attention focused on the task at hand 3) intrinsic interest and authenticity with the task, and 4) a sense of control over the task at hand. Kimura (2008) carried out a case study to examine the experience of two Japanese learners of English as they participated in a remedial listening course. The results provided proof for the major conditions of flow predicted by the flow theory including challenge/skill balance and attention control.

The causal conditions of flow state have been investigated by flow researchers to examine its practical implications to the learning situation. A task may be intrinsically or extrinsically motivating or even both. Some researchers have argued that intrinsic motivations of a task are deteriorated when there is an extrinsic motivation such as an instructional requirement to complete a task (Schmidt and Watanabe, 2001; Dornyei, 1994). Other studies in contrast (e.g., Gagne & Deci, 2005) emphasize the positive effect of extrinsic motivation on intrinsic motivation. Apart from the intrinsic/ extrinsic influences, studies on task motivation have been inspired by motivational elements formulated as intrinsic motivation such as autonomy, perception of competence and relatedness. For instance, Julkunen, 1989 proposed the following four characteristics for a motivating task:

- Students enjoy doing the task
- The task stimulates students to communicate in target language
- The task stimulates students' feeling of competition in completing it
- The task stimulates students' curiosity

In her proposed model of the relationship between flow and language acquisition, Joy Egbert hypothesized that a language learning task involving the following six conditions is most probable to evoke state of flow (Egbert, 2003: 502):

- The challenge is appropriate and the goals are clear
- The task is interesting
- Sufficient time is allotted
- Feedback is immediate
- Learners have control
- Learners have a chance to focus with lack of interruptions

Although the flow theory is counted among theories of motivation, it seems to involve more than motivational elements and includes a set of emotional and cognitive components as well (Dornyei, 2009b). The flow-provoking tasks, activities and learning situations still remain an almost untouched area of study within SLA research. In this study an attempt has been made to explore the affective and pedagogic conditions of flow state in a language learning class as well as the instructional achievements due to engaging learners in a set of tasks that induced state of flow with language learners.

According to the purpose of study, we focused on the examination of   the relationship between the level of engagement students experience and vocabulary retention among learners in FL instruction. Therefore the following research hypotheses were examined:

RH1: There is a significant relationship between flow state and vocabulary short – term retention.
RH2: There is a significant relationship between flow state and vocabulary long – term retention.
RH3: Male & female learners of EFL are different in terms of vocabulary retention resulting from flow state.

Method

Participants and Setting

The participants of the study were about 65 students from two intact classes having enrolled in level 4 and 5 of language courses at an English language institution in Sarab. The research method was quasi experimental. The age range of the participants was between 10 and 14 years. The number of male and female students was considered the gender factor. There were 35 female students and 30 male students.

Procedure

Students were exposed to fifteen new English vocabulary items in each of the three treatment sessions. Learners were exposed to the new vocabulary through regular vocabulary acquisition tasks such as matching visual vocabulary cards and pictures. In addition, they were involved in a set of lively activities which were deemed to induce cognitive-affective engagement with the task. They watched vocabulary learning videos with native speaker's voice. In order for the participants to be able to cope with effective flow state, different activities which included a combination of role play, vocabulary cards box, visual samples and examples for holding students' attention were used. Following three treatment sessions, posttests were administered to students to determine amount of vocabulary learning of participants. After three weeks a delayed posttest was used in order to assess student's long term vocabulary retention.

Instrument

To measure flow, the perception questionnaire used by Egbert (2003) was the main instrument for gathering data about students' affective responses during task engagement as it has been used in a similar way in Egbert's study. The questionnaire had been designed to measure students' perceptions of the flow experiences concerning the tasks they are engaged in. In her study, she had adapted this questionnaire from another questionnaire used in computer-mediated environments by Webster, Trevino and Ran (1993, as cited in Egbert, 2003). She adapted the questionnaire by changing the content from computer-focused

items to learning tasks and by adding two more items to the original scale. The reported alpha reliability of Egbert's adapted perception questionnaire was measured at α = .88 (Egbert, 2003).

The Perceptions Questionnaire consisted of 14 items in the Likert format, having a 7-point scale from 7 (very strongly agree) to 1 (very strongly disagree). Because of the students age range and to facilitate the answering by learners, we used 5- point scale from 5 (strongly agree) to 1 (strongly disagree).

Moreover, the researcher-made vocabulary retention test was used to determine vocabulary learning efficiency during task performance. A series of pretest, posttest, and delayed post test was administered to students, in order to measure the degree of vocabulary learning.

Data Analysis and Results

Pearson correlational analysis was used to explore the relationship between state of flow and scores on vocabulary achievement tests. T-Test was used to examine the comparison between male and female learners. The results of data analysis for the three proposed hypotheses are presented below.

Hypothesis 1

Hypothesis 1 concerned the relationship between state of flow while performing a language learning task and short-term retention of vocabulary. To test the hypothesis Pearson correlation coefficient was calculated. As shown in Table 1, correlation coefficient turned out to be 0.65 which is a relatively high correlation. According to first hypothesis, the learners' flow experience and vocabulary short-term retention were positively correlated. Thus, hypothesis 1 is supported, and we can say that there is significant relationship between short-term retention of vocabulary and the level of flow state.

Table 1 Correlation between state of flow and short-term retention of vocabulary

		Flow	Post-Test
Flow	Pearson Correlation	1	.650[**]
	Sig. (1-tailed)		.000
	N	65	65
Posttest	Pearson Correlation	.650[**]	1
	Sig. (1-tailed)	.000	
	N	65	65

Hypothesis 2

The second hypothesis concerned the relationship between state of flow while performing a language learning task and long-term retention of vocabulary. As shown in Table 2, the amount of correlations is (0.34). According to hypothesis 2, the learners' flow experience and vocabulary long-term retention were positively correlated. Thus, second hypothesis is supported, and it is established that there is significant relationship between long-term retention and the level of flow state.

Table 2 Correlation between flow state and long-term retention of vocabulary

		Flow	Delay
Flow	Pearson Correlation	1	.341[**]
	Sig. (1-tailed)		.003
	N	65	65
Delay	Pearson Correlation	.341[**]	1
	Sig. (1-tailed)	.003	
	N	65	65

Hypothesis 3

Hypothesis 3 claimed that the male and female learners of EFL are different in terms of short-term and long-term retention of vocabulary resulting from flow state. The descriptive statistics for hypothesis 3 is indicated in Table 3.

Table 3 Group statistics for male and female on two posttests

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Immediate	Male	30	11.	10.83	.198
	Female	35	11.69	.796	.135
Delay	Male	30	10.60	1.354	.247
	Female	35	11.29	.926	.156

As is indicated in the table 3, female learners scored higher on both immediate and delayed posttests. T find out whether the differences were statistically different two independent samples t-tests were carried out. The result of separate t-tests indicated that male and female learners' performance on both immediate and delayed posttests was statistically different (sig. values were .001 and 0. 019 for immediate and delayed posttests, respectively). Therefore, the prediction made by hypothesis 3 is statistically confirmed, i.e., male and female learners benefited differently from the task engagement as a result of flow-stimulating activities.

Discussion

The purpose of the present research was to examine the relationship between flow state and vocabulary learning. In relation to the first and second hypotheses, it was found that there was a significant relationship between flow state of students and their vocabulary short and long-term retention. It means the flow state (students' engagement and involvement with the task in hand) has affected students' short term and long term vocabulary retention. These findings confirm and expand our knowledge about flow in EFL classrooms in line with those found by Egbert (2003). Like well-planned tasks, flow-stimulating tasks not only motivate students but also involve them in learning, and also existence of a balance between challenge and skills plays an important role in participants' perception of flow.

This study also shows the existence of flow in the EFL classroom, which is consistent with Egbert's (2003, 2005) studies on flow in language learning activities, and demonstrates the potential of employing classroom playful tasks in language learning. These findings confirm and expand Csikszentmihalyi's (1997, 1990) flow theory the occurrence of which was corroborated by a study by Mirlohi, Egbert and Ghonsooly (2011) on the relationship between flow state of students and translation activity (flow in translation classrooms). The conditions under which the participants experienced flow during translating the descriptive text and subsequently engaged in translation fit the flow model: 1) they were very interested in the subject of the text; 2) their skills in translation were neither overmatched nor underused; 3) they established some kind of relationship between the text content and their world knowledge and experience; 4) no task features prevented them from focusing in activity; and 5) the task could emotionally arouse the participants and optimally engage and involve them in activity (Egbert, 2003).

One of the most salient characteristics of flow is the perfect balance that develops between the challenge that the task poses and the skills that the individual possesses. If the task is too challenging, the individual will not dare to hang on. If the task is too easy, he or she will get bored and lose interest. The best balance between the person and the activity should be achieved so that the challenge can allow learners to expand their skills and their self (Csikszentmihalyi, 1990, p. 3). This idea is similar to the concept of comprehensible input in SLA and the zone of proximal development (ZDP) of the socio-cultural approaches (e.g., Lantolf, 2006). This "growth-enhancing" aspect of flow theory has been researched extensively in psychology (Asakawa, 2004, p. 125).

In relation to the third hypothesis, it was found that there was a significant difference between male and female students in terms of their vocabulary learning. Although both of the gender groups received the same type of treatment in terms of flow-enhancing activities in the classroom, females benefitted more than males in developing both short-term and long-term retention of recently-exposed words.

High intrinsic motivation and flow state not only push students to more challenges, attention and concentration in learning environment but also enables students to better cope with the cognitive challenges embedded into the language learning task leading, therefore, to a higher level of achievements from the pedagogical situation.

Conclusion

The results of this study are consistent with the propositions of flow theory (Abbott, 2000; Csikszentmihalyi, 1997; Egbert, 2003) concerning the impact of learners' perception of task appeal and control. When tasks are interesting and enjoyable, and they provide students with a sense of control, they immerge in learning activity. Ultimately, they have high motivation and perceived as more flow state promoting. According to Csikszentmihalyi (2008) "a teacher who understands the conditions that make people want to learn-want to read, write and do sums- is in a position to turn these activities into flow experiences" (p. 2).

Since learners rarely experience flow in educational settings (Wong & Csikszentmihalyi, 1991), instructors should help them find the right balance of challenge and skills in their learning activities and hence experience flow more regularly.

This study focused on flow in vocabulary learning classroom. According to the findings, the conditions under which the participants experienced flow during activity in vocabulary learning task fit the flow state models. We observed the students as they attempted to learn the meanings of the new words in the classroom activity according to flow principles. When learners were deeply interested in the subject of vocabulary task, they were immersed in the activity and the occurrence of flow state promoted successful language development. The participants also proved that their knowledge of English vocabulary increased as a result of flow state arousal which was evident in their performance on vocabulary tests. While it may seem that flow research still demands a broader perspective, it is necessary to generate ways to apply finding on the enhancing nature of flow state to the research on how to foster flow in learning environment. Finding flow is clearly a good way of finding enjoyment, happiness, enhancing motivation, control, concentration, attention, absorption and engagement in different types of second language learning. We need to explore practical ways to develop this optimal experience in language learning classes.

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