Flow in translation

Exploring optimal experience for translation trainees

Mehdi Mirlohi, Joy Egbert and Behzad Ghonsooly
Sheikhbahaee University, Esfahan / Washington State University / Ferdowsi
University Of Mashhad, Mashhad

The study reported here examined the amount and quality of flow experienced by trainee translators while translating different text genres. Flow (Csikszentmihalyi 1975) is an optimal experience, characterized by intense focus, control, interest and skills-challenge balance that leads to enhanced performance on a task. Although investigated in areas such as professional sports, surgery, and music, Flow Theory has not yet been tested in the area of translation. This study aimed at identifying which discourse genre would induce the most flow in trainee translators while translating. Fifty-six Iranian English Translation majors studying at the University of Kashan translated three 180-word texts of narrative, expository, and descriptive genres. After each translation, they responded to a Flow Perceptions Questionnaire (Egbert, 2003) in the Likert format to report their perceptions of flow. Using repeated measures ANOVA, the researchers investigated flow differences among genres. The results indicated that flow existed in the translation classroom and that there were significant differences in the flow scores engendered by different genres. To support the findings drawn from the numerical analysis, four participants, selected from the population of subjects from the first phase, were interviewed, and the analysis of the interviews generally corroborated the statistical findings.

Keywords: flow, discourse genre, optimal experience, skills-challenge balance, translation.

1. Introduction

Since the last quarter of the previous century, researchers have probed environmental conditions and learner characteristics that may lead to optimal learning, and some have suggested that when a learner has a strong will to learn, he might overcome barriers in the way of learning (Csikszentmihalyi, 1990, 2008; Gardner

& Lambert, 1972). As a result, learner skills would incrementally improve and the learner would seek to tackle more challenging tasks in keeping with the increasing skills, experiencing such enjoyment in learning that it would become its own reward. The concept of *flow* was proposed to account for these phenomena.

Flow Theory was developed by Csikszentmihalyi (1975), who suggests that learners can experience optimal learning during tasks characterized by a skills-challenge balance and by a person's interest, control, and intense focus. The underpinnings of Flow Theory have been examined across manifold groups of people, — young and old, and across different areas of activity — and researchers have determined the central role of flow for individuals' peak performance (Abbott, 2000; Csikszentmihalyi, 1990; Jackson & Roberts, 1992). Yet the role of flow in translation has not been investigated.

In Iran, students of Translation have two aims. The first is to fully grasp what the art and craft of translation is and the second is to improve their English language skills and knowledge. The texts used as a means for learning English and as a vehicle for practicing translation skills play a key role in motivating learners to achieve their goals through the practice of translating. Because translation is a means of FL learning, literature from both FL and translation disciplines apply to the current study.

The underlying processes of translation include the two areas of reading and writing, which have been shown to be flow inducing (Abbott, 2000; Egbert, 2003; McQuillan & Conde, 1996; Trevino & Webster, 1992). Thus it seems reasonable to think that translation might be flow-generating and that underlying tenets of flow might provide a practical yardstick to suggest what type of texts foster motivation and hence might engender more flow.

The concept of flow

As mentioned above, the term *flow* was originally used by Mihalyi Csikszentmihalyi in 1970 to represent "optimal experience," an experiential state characterized by an individual's intense focus, control, interest and also by a skills-challenge balance that leads to enhanced performance on a task, provides the basis for peak performance and reaching one's zenith, and encourages exploratory and investigative behaviors as well as activity repetition (Abbott, 2000; Csikszentmihalyi, 1989, 1996, 1997a, 1997b, 1997c, 1997d). Myriad studies on flow were carried out throughout the 1980s and 1990s, mainly in the US and Italy, exploring such activities as dancing, child-raising, surgery, reading, Internet surfing, playing football, doing art and math, rock climbing, and communicating via computers, expanding flow theory into a robust and empirically well confirmed theory (Asakawa, 2004;

Csikszentmihalyi & Csikszentmihalyi, 1988; Inghilleri, 1999; McQuillan & Conde, 1996; Massimini & Delle Fave, 2000; Webster, Trevino, & Ryan, 1993). Flow researchers have reported that the quality of experience during flow is characterised by: intense focus, cognitive efficiency, a perceived skills-challenge balance, immediate feedback, merging of action and awareness, a sense of control, enjoyment, the opinion that time passes quickly, clearly defined task objectives and a lack of self-consciousness (Egbert, 2003; Wanner, Ladouceur, Auclair & Vitaro, 2006). Flow is claimed to be culturally universal (Massimini, Csikszentmihalyi & Delle Fave, 1998) and to cross both social class and age group barriers (Abbott, 2000). However, it has been shown that there are variations across people and tasks and some people are likely to experience flow more often than others even while doing unpleasant chores (Hektner & Csikszentmihalyi, 1996).

The dimensions of flow

Skills-challenge Balance

An optimum skills-challenge balance is the most significant precondition to experiencing flow. In other words, the most fundamental hypothesis of flow theory holds that the quality of experience is reliant on an extant symbiotic relationship between the challenges of a task and the skills a learner needs to tackle those challenges (Csikszentmihalyi & Csikszentmihalyi, 1988; Shernoff, Csikszentmihalyi, Schneider & Shernoff, 2003; Whalen, 1997). Flow occurs when the skills are neither overmatched nor underutilized to meet a given challenge and "in order to maintain the enjoyment of flow, people must continually engage in new challenges to match their increasing skills, and they must perfect their skills to meet the challenges" (Hektner and Csikszentmihalyi, 1996: 4). However, it is believed that this balance is conducive to flow only when it exceeds the level that is typical of learners' everyday experiences and when both the challenges and the skills are at a high level (Csikszentmihalyi & Csikszentmihalyi, 1988; Custodero, 2002). Indeed, flow is induced while engaging in tasks whose challenges, regardless of being *concrete* or *abstract* (Eccles & Wigfield, 2002), encourage a person's best efforts.

According to Whalen (1997), the flow channel, due to the unstable features of learning environments and constantly changing characteristics of individual learners, is very frail and thus resulting in, when disrupted, apathy (low challenges, low skills), anxiety (high challenges, low skills) or relaxation (low challenges, high skills). In general, the imbalance between perceived levels of challenges and skills associates negatively with the quality of experience (Montena & Csikszentmihalyi, 1996). For a schematic representation of the skills-challenge balance, see Egbert (2003).

Of utmost salience here is the fact that the skills-challenge balance that flow requires is dynamic rather than stable over time because a person incrementally increases in skills. Therefore, individuals must, on the one hand, constantly engage in novel challenges to complement their ever-increasing skills and, on the other hand, develop their skills to balance new challenges. Such autotelic (Abuhamdeh, 2000; Asakawa, 2004) individuals show a strong inclination to place themselves in situations where the perceived challenges are higher than the perceived skills.

Attention

The undivided attention which a totally engrossed agent pays to a task may be the most clearly observable sign that an individual is experiencing flow. In Csikszent-mihalyi's words (1975: 38):

> Perhaps the clearest sign of flow is the merging of action and awareness. A person in flow has no dualistic perspective: he is aware of his actions but not of the aware-ness itself…. When awareness becomes split, so that one perceives the activity from "outside," flow is interrupted. Therefore, flow is difficult to maintain for any length of time without at least momentary interruption.

Characterized by automaticity, intense focus is one of the factors which endorse optimal learning experiences in educational settings (Csikszentmihalyi, Rat-hunde, & Whalen, 1993). However, *unintentionality* of focused attention is also regarded as crucial to flow experience (Egbert, 2003). Likewise, Abbott (2000) re-ports that learners' *intentional* focused attention impedes the flow experience. It is worth noting that heightened concentration on activities should be accompanied by pleasant feelings and positive affect. If not, the activities are experienced as dis-affecting. Similarly, activities which arouse positive affect but without an intense focus would soon become frolicsome (Csikszentmihalyi & Nakamura, 1999).

Interest

According to Deci (1992), when the abilities, needs and desires of an individual mesh with the attributes of a task, the individual is very likely to feel interest in the experience. Interest plays a pivotal role in engaging learners, as a requisite for flow to occur, with a task for its own sake and provides the foundation for subsequent learning and ongoing motivation (Deci & Ryan, 1987). Flow Theory associates learner interest with affect and posits that some level of anxiety is needed for learn-ers to experience flow (McQuillian & Conde, 1996; Schmidt, Boraie, & Kassabgy, 1996), although as Egbert (2003) notes, this is in contrast with theories of SLA

which maintain that language skills should be acquired in stress-free learning contexts without anxiety.

Control

The possibility for learners to exercise control while learning, especially in difficult situations, has been regarded as essential in experiencing flow (Jackson & Marsh, 1996). Whalen (1997) also asserts that contexts such as school can induce more flow if they provide learners with opportunities for autonomy and self expression. Therefore, autonomy-supporting environments are most likely to generate flow in learners vis-à-vis controlled environments in which learners have no choice. However, Thanasoulas (2000) points out that learners are not inherently autonomous and that they need to be helped to gain independence in their learning context.

In addition to the above-said dimensions, flow has been found to be associated with such significant features as intrinsic motivation (Nakamura & Csikszentmihalyi, 2002), enjoyment, and enhancing growth (Wanner, Ladouceur, Auclair & Vitaro, 2006).

Flow in translation and in foreign language learning

The field of SLA has seen few studies employing Flow Theory. Among them, reference can be made to Egbert (2003), Schmidt and Savage (1992), and Schmidt, Boraie and Kassabgy, (1996), all of which suggest that there is a relationship between flow and FL learning. This relationship is depicted in Figure 1, adopted from Egbert (2003).

In addition to stressing the role of affective factors, Flow Theory emphasizes the complex interplay between learner characteristics and contextual variables which contribute to the learning process. Simply put, flow, although a personal experience, does not occur in isolation but rather it is dependent on both learner characteristics and environmental conditions (Egbert, 2003). As can be seen from Figure 1, the target language tasks, instead of general environmental variables, play a very important role in the proposed relationship between flow and FL learning. Another significant feature of this model is the fact that skills incorporate not only different modes of language (speaking, listening, reading, and writing) but also the use of tools such as computers that may influence both FL learning and flow experience.

Although flow has thus received some attention in foreign language learning theory, it has not, to the best of our knowledge, been tested in the area of translation, and it was the aim of the study being reported here to establish whether
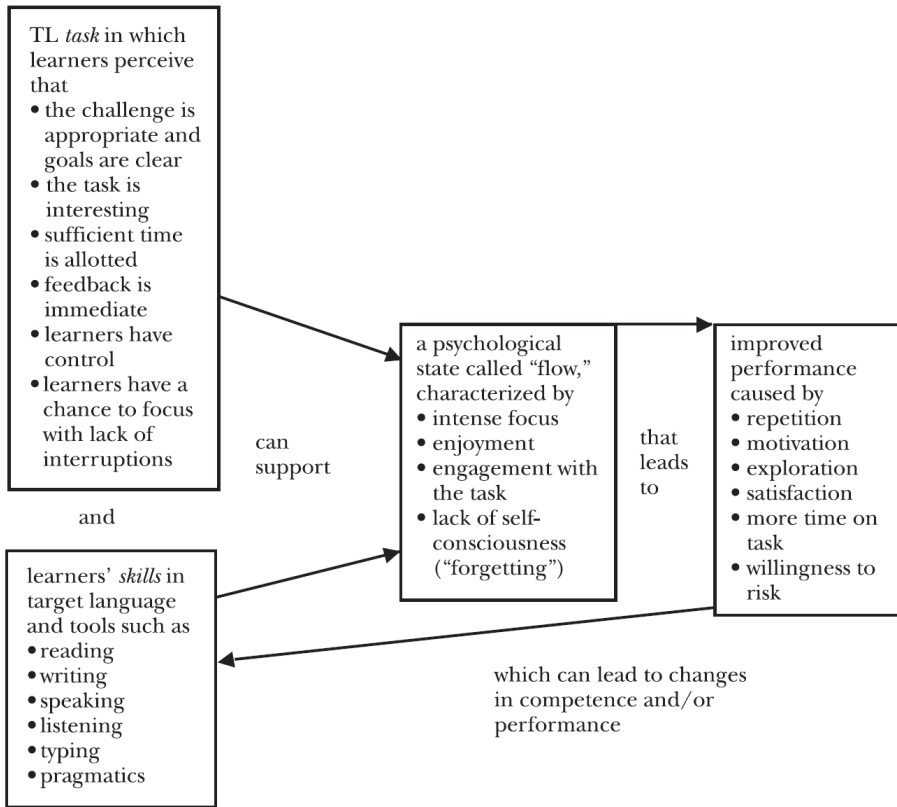
Figure 1. Model of the Relationship between Flow and Language Acquisition (from Egbert, 2003)

flow occurs in L2-L1 translation and to investigate which discourse genres might induce more flow.

The present study investigates flow in translation and encompasses two main phases. The first employs a Flow Perceptions Questionnaire, and the second makes use of post-task interviews and background data. It is worth noting that the main impetus to adopting a qualitative approach, in addition to a numerical one, emanates from the fact that using recalls as the only source of data supplies only self report data that may or may not reflect participant's true experiences (Egbert, 2003). The study reported here aimed at answering:

RQ1: Does flow occur during translation?

RQ2: Are there any significant differences among discourse genres in terms of inducing flow?

Methodology

Participants

Fifty-six students, comprising two full classes at the University of Kashan, Iran, took part in this study. All of the subjects majored in English translation, which is an emphasis in the 4-year English Bachelor of Arts program. In order for the participants to be able to cope with effective translation of the texts, only third and fourth year university students were recruited. Their average age was 22 years, and the group included 40 females and 16 males. Of the 56 participants, 42 (75%) had started learning English before entering the university. A large number of them opted for translation (in contrast with listening, reading, speaking, writing) as their favorite learning activity. No participant reported a negative attitude and a great number expressed a positive attitude to English language.

Instruments

To investigate the research questions, both observational and numerical sources of data were used, as neither alone can precisely provide sufficient evidence to capture flow experiences (Egbert, 2003).

Tasks and Texts

For the purpose of the translation task, three discourse genres were selected: narrative, descriptive, and expository (see Appendix A for the passages). Three English language texts of around 180 words were chosen from "Patterns: A Short Prose Reader" (Conlin, 1998).

In order for the texts to offer the same level of challenge, we checked their level of readability in two ways. First, to check the built-in structure of the texts, we made use of the Flesch-Kincaid Grade Level score. The readability scores reported by the computer were 8.5 for narrative, 8.6 for descriptive, and 9.2 for expository, indicating that the chosen texts were similar in their level of difficulty. For further assurance, three university professors and language instructors were asked to judge the overall level of difficulty of the texts on a scale from elementary to advanced. Here, aspects such as participants' familiarity with the chosen text types, their knowledge of the world, etc, were taken into account. The discourse genres were all judged to be at a high-intermediate level, and the texts were regarded to be similar in terms of readability (i.e., built-in structure & overall impression).

Flow Perceptions Questionnaire

To measure flow, the researchers used the Flow Perceptions Questionnaire (in English) (Cronbach's α = .82) adopted directly from Egbert (2003). The Perceptions Questionnaire (see Appendix B) consisted of 14 items in the Likert format, having a 7-point scale from 7 (very strongly agree) to 1 (very strongly disagree). For the purpose of item intelligibility, the questionnaire was pilot-tested beforehand with a group of 12 university juniors and the results showed that it was intelligible. Four of the questions were reverse scored.

The questionnaire data were entered into a SPSS 16 database in three ways. First, the individual responses to all questions on each perception questionnaire for each participant on each task were entered. Each participant therefore had 42 scores (from 1 to 7) over the three tasks. Second, we entered the averages for each task for each subject. Third, the averages of all the students' flow scores across all the tasks were entered. This information made it possible to conduct analyses involving descriptive and inferential statistics.

Flow-Dimension-Open-Ended Form

By administering this form, we intended to find out whether those subjects who achieved high scores on the survey for a specific task had in fact experienced flow during translation. In other words, there was an attempt to discover whether high scores on the Perceptions Questionnaire actually indexed flow experience. This post-task form included eight open-ended questions (see Appendix C), based on flow dimensions, and solicited and probed the participants' reactions as experienced during each task. The participants were allowed to provide the required answers either in their mother tongue or in English.

The researchers, using open coding, manually coded and analyzed the participants' responses to each question. By looking for anything pertinent to the research questions, the researchers examined the collected data for emergent patterns and themes. The schemes and initial categories for coding emerged from a first pass through the data. Here mentions of interest, text readability, enjoyment, etc., as patterns which supported flow, were taken into consideration. We negotiated the coding scheme by means of discussion and resolving disagreement. We used the patterns to identify flow experience during each task.

Based on all the information obtained, we assigned a flow score from 1 (none) to 7 (high) to each participant for each task. To ensure reliability, we recoded the data 3 weeks later and reassigned a flow score from 1 to 7 to each participant for each task. Through a simple percentage agreement technique, the researchers calculated inter-rater reliability. An initial agreement of 86% was achieved and

the scores in disagreement were discarded. The researchers compared flow scores resulting from the questionnaire and those from the open-ended form. With a correlation of 82 %, the two sets of scores were congruent and valid.

Interview

For further assurance that the participants' flow scores measured through the Flow Perceptions Questionnaire are indicative of their experience, the researchers conducted open interviews with four informants two males and two females: a randomly selected male subject, a female subject who had flow scores with minimum distance between them, a participant for his lowest flow score on the narrative, and another participant for her highest flow score on the descriptive text. To avoid the risk of losing anything significant, the interview was conducted in the participants' mother tongue. One-on-one interviews were used. Before conducting the interview, we asked the participants to review their translations to stimulate their recall. Positive perceptions of any of the four flow dimensions served to corroborate that flow can occur in translation classrooms and to support conclusions about task characteristics which contribute to flow. Indications of negative perceptions of flow dimensions, in contrast, were regarded as indicating potential barriers to flow.

Procedure

Data collection was conducted during the participants' regular class hours. On each of three days, they translated one discourse genre and, immediately afterwards, marked their degree of agreement or disagreement with each of the items on the Flow Perceptions Questionnaire. Afterwards, they responded, without delay, to the eight open-ended questions on the Flow-Dimension-Open-Ended Form. It was strongly emphasized that the questionnaires had to be filled in immediately after the translation of the text, and that they related to the text just translated.

For the participants to be able to exert control over their translation, they were told that they could have as much time as they needed, that they could use whatever dictionaries they thought necessary, and that they could work with whoever they liked. The participants often made use of their electronic dictionaries. There was also no limit on the type of translation they produced. It was only stipulated that the renderings of the texts had to be in appropriate Persian, understandable and coherent.

Finally, survey responses were entered into an SPSS 16 database to be analysed so that we could establish which discourse genre generated more flow.

Results and discussion

Statistical findings

Descriptive Statistics

Table 1 summarizes the statistics of all flow scores across each task and all tasks. As can be seen, there is a difference in this administration of the Flow Perceptions Questionnaire between the mean of the descriptive text (73.51) on the one hand and that of the expository (61.53) and narrative (57.69) texts on the other. In the same Table, TEDN refers to the average of all flow scores for all participants across all tasks.

Table 1. Statistics of All Flow Scores across Each Task and All Tasks

Statistic	N		Mean	Std. Deviation	Range	Minimum	Maximum
Text	Valid	Missing					
TE (Expository)	56	0	61.5357	10.66850	75.00	21.00	96.00
TD (Descriptive)	56	0	73.5179	9.43300	41.00	56.00	97.00
TN (Narrative)	56	0	57.6964	11.54425	67.00	26.00	93.00
TEDN	56	0	64.2500	6.93003	47.67	46.00	93.67

It must be noted that, according to Egbert (2003), previous research designates a flow experience as being above average on skills and challenge. That is, the participants who scored 70 or above on any survey (equivalent to "agree" on all questions) are designated as having experienced flow. Therefore, it can be understood that the only task on which the participants averaged 70 or above is the descriptive text and hence it can be inferred that this text was flow inducing. Although it is a very liberal definition of the flow experience, it captures a range of intensity which is essential to understanding flow during classroom tasks (Csikszentmihalyi, 1997a, cited in Egbert, 2003). Given these data, 7, 35, and 8 participants scored above 70 in the expository, descriptive, and narrative texts respectively and hence experienced flow. Of the 168 surveys analyzed, only 10 indicated that participants experienced a very high degree of flow (i.e., they recorded a 6 or 7 for each question). Some participants showed less variation on their answers to surveys, but all of them varied somewhat. Therefore, it seemed that they did not mark random similar choices on their surveys.

Interpretive Statistics

As stated above, the researchers sought to investigate the significant differences among discourse genres in terms of the magnitude of inducing flow in EFL learners majoring in translation. Therefore, by using a repeated measures ANOVA, we investigated the significance of the difference among flow scores (Table 2). It follows from the table that the value for Wilks' Lambda is .392, with a probability value of .000 which is less than .05. Therefore it can be concluded that there is statistically significant effect for text. This suggests that there is a significant change in flow scores across the three different texts. As the table indicates, the calculated effect size would be 0.608 which shows, according to Cohen (1988), a very large effect. That is, the difference between the means is large. In other words, around 60 % of the variance in the dependent variable (flow score) can be explained by the variance in the independent variable (discourse genres of descriptive, expository, and narrative).

Table 2. Repeated Measures ANOVA Analysis of Flow Score Means

Multivariate Tests[b]

Effect		Value	F	Hypothesis df	Error df	Sig.	**Partial** Eta Squared
text	Pillai's Trace	.608	41.886[a]	2.000	54.000	.000	.608
	Wilks' Lambda	.392	41.886[a]	2.000	54.000	.000	.608
	Hotelling's Trace	1.551	41.886[a]	2.000	54.000	.000	.608
	Roy's Largest Root	1.551	41.886[a]	2.000	54.000	.000	.608

a. Exact statistic
b. Design: Intercept; Within Subjects Design: text

The repeated measures ANOVA table indicates that the independent variable would have an effect on the dependent variable. To know where exactly the effect lies and which two groups are significantly different from each other, a post hoc test was used, the result of which is shown in Table 3. The reported significance levels in the table show that the mean difference of flow scores between the descriptive text on the one hand and the other two texts on the other are significant. In other words, the descriptive text significantly differed from the other two texts in terms of engendering flow in participants and since the magnitude of flow scores induced by this text is above 70, it is the only overall flow-inducing text.

Table 3. Post hoc analysis of flow score means

Pairwise comparisons

Measure:MEASURE_1

(I) text	(J) text	Mean difference (I-J)	Std. Error	Sig.[a]	95% Confidence interval for difference[a]	
					Lower bound	Upper bound
1	2	-11.982[*]	1.770	.000	-16.353	-7.611
	3	3.839	1.936	.157	-.941	8.620
2	1	11.982[*]	1.770	.000	7.611	16.353
	3	15.821[*]	1.845	.000	11.265	20.378
3	1	-3.839	1.936	.157	-8.620	.941
	2	-15.821[*]	1.845	.000	-20.378	-11.265

Based on estimated marginal means

*. The mean difference is significant at the .05 level.

a. Adjustment for multiple comparisons: Bonferroni.

In Table 4, 1, 2, and 3 refer to the expository, descriptive and narrative texts re-spectively.

It is, by the same analysis, understood that the mean difference between the expository and narrative texts is not significant.

As said earlier, it was of importance for the researchers that the selected texts be quite similar in all respects and that they only be different in terms of their genre. We initially believed that it was not necessary to control for other charac-teristics of the text such as topic and level of interest as long as the challenge was matched. As noted above, Flow theory is mainly recognized by its most funda-mental hypothesis: the skills-challenge balance. We hence considered difficulty in reading as a good gauge to control for this issue and to ensure comparable texts in terms of challenge. However, in retrospect, it does not seem plausible to only attribute the difference between the magnitudes of flow produced during these tasks to the genre per se. For example, one can reasonably argue that the difference might, especially when looking at the anecdotal data, emanate from the effect of the topic, from the participants' level of interest in a specific task, or from the per-ceived challenge level of the given tasks. Environmental variables might also play a role. Therefore, further research is needed to determine whether the descriptive genre per se is the cause of the higher incidence of translation flow.

Qualitative findings

As previously mentioned, the qualitative phase of the study included two main stages. The first stage deals with coding the data obtained from the Flow-Dimension-Open-Ended Form filled out by the participants. The second stage reports the interviews with four of the participants about their reactions towards each of the texts.

Findings from the analysis of Flow-Dimension-Open-Ended Form indicated that the participants had perceived the texts differently. With regard to the descriptive, the text characteristics could provide the conditions for flow to occur as nearly all participants reported that nothing prevented them from concentrating on the descriptive text and the text was interesting, could hold the participants' attention, and arouse their curiosity. In responding to what made this task interesting, for example, one participant in flow noted: "the text content was so interesting to me that I liked to get to the end. And while translating, I wondered how well I was able to render this beautiful text into Persian." Concerning the narrative text, many of the participants not in flow talked about language issues. One participant who had not experienced flow for this task remarked that, "the text contained stilted vocabulary and difficult unfamiliar structures to get the gist." This could be why many students complained that the narrative text was not interesting at all. Yet another participant added, "although the text was quite understandable and kind of easy, the topic was boring, about an old granny who is going to die. Nonsense." Thus, the barriers to the narrative text include topic and language. In connection with the expository text, a lot of the participants claimed that the text was interesting because it described a lifelike situation which many people are simply ignorant of. However, many participants, similar to the narrative, considered the text to be difficult and hard to translate. In other words, the open-ended form data supports the numerical data and indicates what students might have experienced as barriers to flow.

As mentioned earlier, we opted, for the sake of practicality, to interview only four informants: informant A for his lowest flow score on narrative, informant B for her highest flow score on descriptive text, informant C for her flow scores with minimum distance, and informant D chosen randomly. The informants' scores on three genres are presented in Table 4 below.

Table 4. The interviewees' flow scores

	Descriptive	Expository	Narrative
Informant A	**94**	57	26
Informant B	**97**	96	88
Informant C	69	66	**70**
Informant D	**67**	55	47

Informant A affirmed that he liked the descriptive text most because of its content and subject. On the contrary, he disliked the narrative text, confirming his lowest flow score on the survey. Likewise, informant B confirmed, even though her flow scores on the descriptive and the expository were so close, that she was most interested in the descriptive text. Informant C with the minimum distance between her flow scores confirmed that the narrative text was the most interesting to her because it was easier than the other two. Informant D explained that lengthy sentences prevented him from exerting full control over his translation, and he preferred the descriptive text. By and large, the verbal reports corroborated their answers on each of the surveys.

In effect, the results obtained in the qualitative phase of the study supported and affirmed the findings from the numerical phase. Data analysis brought to the fore a wide variety of factors that seemed to influence students' flow, including text topic, participants' level of interest in the text and text characteristics, language issues such as structural difficulty, content germane to lifelike situations, individual appreciation of the text, and overall translatability. Unclear, however, is why the narrative text, as some interviewees mentioned, was perceived as more difficult. As stated earlier, the researchers endeavored to ensure comparability between the texts in terms of the level of difficulty. So is this perceived skills-challenge imbalance related to genre, topic, or some other features? Likewise, one can ask what features of the descriptive text aroused the participants' interest (an important dimension of flow) more than the other genres.

Conclusions

Given the operational difficulties of measuring flow as a highly subjective experience and also the limitations of the present study especially in terms of sample size and of the scope of genres and tasks involved, any conclusion presented here must inevitably be treated as tentative but still suggestive of some important issues in flow research and translation psychology.

The first conclusion regards the adequacy of the Flow Perceptions Questionnaire and the replication of previous findings. On the whole, it can be concluded that the Perceptions Questionnaire is a reliable instrument to gauge flow, which may be indicative of the participants' true experiential states, and that the survey together with interviews and open-ended questionnaires are consistent measures. Generally speaking, if a text presents ample opportunities to experience flow on the four dimensions, it is more likely that the participants will reflect it on the questionnaire, suggesting that the four dimensions can contribute to flow experience.

A second conclusion regards flow in translation classrooms. The conditions under which the participants in the present study 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 intensely; and 5) the task could emotionally arouse the participants and optimally engage them. It is worth noting that translation is a demanding activity which may be uninteresting or unengaging from the translator standpoint. However, whenever a text can emotionally arouse translators and optimally involve them (like the descriptive text in this study), it is more likely to produce flow. This is clearly seen in the present study as nearly two thirds of the participants reported that they experienced flow while translating the descriptive text, which was associated with these kinds of characteristics. Therefore, although translation, as compared with computer and reading tasks (Egbert, 2003), was not high-flow inducing, it seemed to produce flow in this study. This is in line with studies investigating flow in FL classes (Egbert, 2003; Schmidt, Boraie & Kassabgy; 1996; Schmidt & Savage, 1992). Nonetheless, it is not clear from this preliminary study which dimension of flow has the dominant role in inducing flow experience, nor does it indicate what specific characteristics of texts cause participants to reflect strongly perceived flow on the questionnaire. To put it differently, the study does not tell us how the descriptive, narrative, and expository texts differ in engendering flow.

This study also suggests that the patterns of flow across texts are quasi-similar although participants perceive flow differently. Therefore, it seems reasonable to talk about texts that induce flow. For example, in this study the participants reported that the two descriptive and expository texts were true to life and caused them to contemplate more authentic situations. Also, the results provide support for the argument that flow is an experiential state that varies not only across tasks and activities, but also across people. In other words, the results support Adlai Gail's findings (1994) that certain people tend to experience flow consistently more often than others, as in this study one participant experienced flow during all tasks and twelve other participants experienced flow during two of the tasks.

Assuming that any translator is first a reader, the results suggest that translators probably experience more flow when they adopt, in Rosenblatt's term (cited in McQuillan & Conde, 1996), an 'aesthetic' attitude, or the appreciation of the text's literary value, regardless of genre. As observed in this study, the participants mainly adopted an aesthetic attitude, as reported by them during the qualitative phase of the study, to the descriptive text and hence more flow was induced. However, one must be cautious in interpreting the results and findings of this preliminary

study and be careful in claiming causality because there are no results from prior research concerning flow and translation to compare with.

Pedagogical implications

It follows from the findings of this study that teachers of translation can possibly enhance the flow experience for their students by having them translate texts likely to engender high flow. 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.

However, learners, especially in the Iranian context, are often required to translate texts the challenge of which do not match their level of skills and the genres/topics of which do not engage them as readers. As a result, learners may lose interest in the given task altogether and find translation laborious, and dull. Through translating flow-inducing texts, trainees would optimally engage and enhance their skills.

Suggestion for future research

This study was an initial investigation of whether flow existed in translation and involved a narrow selection of genres. Future research could adopt a stricter *definition of genres* than employed here and investigate a wider range of genres. However, because the qualitative data showed that there are other possibly mitigating circumstances and variables, a greater variety of explanations for student engagement should be examined. For example, it is possible, as implied in the current study, that topic has a significant role to play. Future studies could also move beyond the limit of L2-L1 translation.

Abbott (2000) reports that many students exhibit characteristics of full engagement while reading but not writing. This study does not address how these two skills influence participants' flow experiences in translation. These two skills may very well present different levels of challenge to the translator. A participant may have sufficient skill in reading but simultaneously feel unskilled in writing in his first language. The reverse may also be true. Therefore, it is not clear whether the participants who find translating of a particular text challenging find it so because of the reading or the writing macro-skills or both. Future research can

address this issue, as well as the important issue of the effect of flow on translation quality and the longitudinal use of descriptive texts in translation classrooms to see how the dimensions of flow change with extensive use of descriptive texts.

Another promising area for further research is the effect of the social context of the classroom on translation flow. According to Abbott (2000), the social context of the classroom influences the quality of student writing. Assuming that any translator is inevitably a writer, the influence of in-class and out-of-class translation on trainees' experience of translation flow can be further investigated.

References

Abbott, J. (2000). "Blinking out" and "having the touch": Two fifth-grade boys talk about flow experience in writing. *Written Communication, 17*, 53–92.

Abuhamdeh, S. (2000). "The autotelic personality: an exploratory investigation." Unpublished doctoral dissertation. University of Chicago. In Asakawa, K., (2004). Flow experience and autotelic personality in Japanese college students: how do they experience challenges in daily life? *Journal of Happiness Studies, 5,* 123–154.

Asakawa, K. (2004). Flow experience and autotelic personality in Japanese college students: how do they experience challenges in daily life? *Journal of Happiness Studies, 5*, 123–154.

Conlin, M. L., (1998). *Patterns: a short prose reader*. Houghton Mifflin Company: USA

Csikszentmihalyi, M. (1975). *Beyond boredom and anxiety*. San Francisco: Jossey-bass.

Csikszentmihalyi, M. (1989). *The optimal experience in work and leisure. Journal of Personality and Social Psychology*, 56, 815–822.

Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: Harper & Row.

Csikszentmihalyi, M. (1996). *Creativity: flow and the psychology of discovery and invention.* New York: HarperCollins.

Csikszentmihalyi, M. (1997a). Evolution and Flow. *NAMTA Journal, 22*(2), 118–149.

Csikszentmihalyi, M. (1997b). Flow and education. *NAMTA Journal, 22*(2), 2–35.

Csikszentmihalyi, M. (1997c). Flow and evolution. *NAMTA Journal, 22*(2), 36–58.

Csikszentmihalyi, M. (1997d). Flow and creativity. *NAMTA Journal, 22*(2), 61–97.

Csikszentmihalyi, M. (2008). Thoughts about education. In D. Dickinson (Ed.). *Creating the future: perspectives on educational change.* Retrieved September 12, 2009, from the World Wide Web : http:// www.newhorizons.org/

Csikszentmihalyi, M. & Csikszentmihalyi, I. (1988). *Optimal experience: psychological studies of flow in consciousness.* New York: Cambridge University Press.

Csikszentmihalyi, M., & Nakamura, J. (1999). Emerging goals and the self-regulation of behavior. In R. S. Wyer, Jr. (Ed.). *Perspectives on behavioral self-regulation.* (Chapter 2: pp: 107–118). New Jersey: Lawrence Erlbaum Associates.

Csikszentmihalyi, M., Rathunde, K. & Whalen, S. (1993). *Talented teenagers: the roots of success and failure*. New York: Cambridge University Press.

Custodero, L. A. (2002). Seeking challenge, finding skill: Flow experience and music education. *Arts Education Policy Review, 103*, 3, 3–9.

Deci, E. L. (1992). The relation of interest to the motivation of behavior: a self-determination theory perspective. In K. A. Renninger, S. Hidi, & A. Krapp (Eds). *The role of interest in learning and development*. (pp. 43–70). Hillsdale, NJ: Lawrence Erlbaum Associates.

Deci, E. L. & Ryan, R. M. (1987). The support of autonomy and the control of behavior. *Journal of Personality and Social Psychology, 53*, 1024–1037.

Eccles, J. S. & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual Review of Psychology, 53*, 109–32.

Egbert, J. (2003). A Study of Flow Theory in the foreign language classroom. *The Modern Language Journal, 87,* 499–518

Gardner, R. C., & Lambert, W. E. (1972). *Attitudes and motivation in second language learning.* Rowley, MA: Newbury House.

Hektner, J., & Csikszentmihalyi, M. (1996). *A longitudinal exploration of flow and intrinsic motivation in adolescents.* Paper presented at the annual meeting of the American Educational Research Association, New York.

Inghilleri, P. (1999). *From subjective experience to cultural change.* New York: Cambridge University Press.

Jackson, S. A., & Marsh, H. W. (1996). Development and validation of a scale to measure optimal experience: the flow state scale. *Journal of Sport and Exercise Psychology, 18,* 17–35.

Jackson, S., & Roberts, G. (1992). Positive performance states of athletes: Toward a conceptual understanding of peak performance. *The Sport Psychologist*, 6, 156–171.

Massimini, F., & Delle Fave, A. (2000). Individual development in a bio-cultural perspective. *American Psychologist, 55*, 24–33.

Massimini, F., Csikszentmihalyi, M., & Delle Fave, A. (1998). Flow and biocultural evolution. In M. Csikszentmihalyi & I. Csikszentmihalyi (Eds). *Optimal experience: psychological studies of flow in consciousness* (pp. 60–81). New York: Cambridge University Press.

McQuillan, J., & Conde, G. (1996). The conditions of flow in reading: Two studies of optimal experience. *Reading Psychology: An International Quarterly, 17*, 109–135.

Montena, G. B. & Csikszentmihalyi, M. (1996). The effect of perceived challenges and skills on the quality of subjective experience. *Journal of Personality, 64,* 266–310.

Nakamura, J. & Csikszentmihalyi, M. (2002). The concept of flow. In C. R. Snyder & S. J. Lopez (Eds.). *Handbook of positive psychology* (pp. 89–105). Oxford: Oxford University Press.

Schmidt, R., Boraie, D., & Kassabgy, O. (1996). Foreign language motivation: internal structure and external connections. In R. Oxford (Ed.). *Language learning motivation: Pathways to the new century* (pp. 9–56). Manoa: University of Hawaii Press

Schmidt, R., & Savage, W. (1992). Challenge, skill and motivation. *PASAA, 22,* 14–28.

Shernoff, D. J., Csikszentmihalyi, M., Schneider, B., & Shernoff, E. S. (2003). Student engagement in high school classrooms from the perspective of Flow Theory. *School Psychology Quarterly, 18 (2)*, 158–176.

Thanasoulas, D. (2000). "What is learner autonomy and how can it be fostered?" *The Internet TESL Journal,* 6, 11. Retrieved August 14, 2009, from the World Wide Web: http:// itesl.org/ Articles/Thanasolas-Atonomy.html

Trevino, L. & Webster, J. (1992). Flow in computer-mediated communication: Electronic mail and voice ail evaluation and impacts. *Communication Research, 19*, 539–573.

Wanner, B., Ladouceur, R., Auclair, A. V., & Vitaro, F. (2006). Flow and dissociation: examination of mean levels, cross-links, and links to emotional well-being across sports and recreational and pathological gambling. *Springer science + business media.*

Webster, J., Trevino, L., & Ryan, L., (1993). The dimensionality and correlates of flow in human-computer interactions. *Computers in Human Behavior, 9,* 411–426.

Whalen, S. (1997). *Assessing flow experiences in highly able adolescent learners.* Paper resented at the annual meeting of the American Educational Research Association in Chicago, IL.

Wong, M., & Csikszentmihalyi, M. (1991). Motivation and academic achievement: The effects of personality traits and the quality of experience. *Journal of Personality,* 59(3), 539–574.

Appendix A

Narrative Genre

Grandma's Last Day

The morning, Grandma worked on a quilt for a helpful neighbor who looked in on her often. Sometime she telephoned to a friend at a ranch, asking to be brought a fresh supply of eggs. In the afternoon there was a funeral: Grandma did not go to the rites, but at the coffee hour held afterward at the Senior Citizens Club she helped with the serving and chatted with friends. Someone had driven her home, where she had her supper alone. In the evening, there was to be the weekly card party back at the Senior Citizens Club, and she phoned to ask for a ride with her best friend in the group. They had nearly arrived at the card party when, in the midst of something joked by one or the other of them, Grandma cut off in the middle of a chuckle and slumped, chin onto chest. The friend whirled the car to the hospital a block away. A doctor instantly was trying to thump a heartbeat-rhythm into Grandma, but could work no flicker of response from her. She had gone from life precisely as she had lived it, with abruptness and at full pace.

Descriptive Genre

The Quiet Odyssey

In Los Angeles in 1950 we found many minority women working in sewing factories making garments of every sort for fifty cents an hour, eight hours a day. After several years, the wage went up to one dollar an hour. The sewing rooms were dirty and very dusty, with lint and dust filling the air like fog. The rooms had no air conditioning and no windows. The dust settling on the heads of the women made their hair look gray by the end of the day. The loud power-driven sewing machines working at full speed all at once made a thundering noise that deafened the dear. It was a frightful thing to listen to for eight hours every weekday. I tried it once for several months and the experience made me admire all those women who endured it for years in order to send their children to colleges and universities. I have seen those children return home as doctors, lawyers, and engineers, thus rewarding their parents for their sacrifices.

Expository Genre

Why Eat Junk Food?

We crunch and chew our way through vast quantities of snacks and confectionaries and relieve our thirst with multicolored, flavored soft drinks, with and without calories, for two basic reasons. The first is simple. The food tastes good and we enjoy the sensation of eating it. Second, we associate these foods, often without being aware of it, with the highly pleasurable experiences depicted in the advertisements used to promote their sale. Current television advertisements demonstrate this point. People turn from grumpiness to euphoria after crunching a corn chip. Others water ski into the sunset with their loved ones while drinking a popular soft drink. People entertain on the patio with friends, cook over campfires without mosquitoes, or go to carnivals with granddad munching away at the latest candy or snack food. The people portrayed in these scenarios are all healthy, vigorous, and good looking. One wonders how popular the food they convince us to eat would be if they would crunch or drink away while complaining about low back pain or clogged sinuses.

Appendix B: Flow Perceptions Questionnaire

1. This task excited my curiosity.
2. This task was interesting in itself.
3. I felt that I had no control over what was happening during this task.
4. When doing this task I was aware of distractions.
5. This task made me curious.
6. This task was fun for me.
7. I would do this task again.
8. This task allowed me to control what I was doing.
9. When doing this task, I was totally absorbed in what I was doing.
10. This task bored me.
11. During this task, I could make decisions about what to study, how to study it, and/or with whom to study.
12. When doing this task I thought about other things.
13. This task aroused my imagination.
14. I would do this task even if it were not required.

Appendix C: Flow-Dimension-Open-Ended Form

1. What did you find challenging or too hard in this task?
2. What did you find that was boring or too easy?
3. What made this task interesting to you?
4. What made this task not interesting to you?
5. What helped you to focus on this task?
6. What made you lose focus during this task?
7. What parts of the task could you control?
8. What parts of the tasks could you not control?

Authors' addresses

Mehdi Mirlohi
Faculty of Foreign Languages
Sheikhbahaee University, Esfahan, Iran

m.mirlohi@yahoo.com

Dr. Behzad Ghonsooly
Dr Shariati Faculty of Humanities
Department Of English Language,
Ferdowsi University Of Mashhad
Mashhad, Iran

ghonsooly@yahoo.com

Dr. Joy Egbert
Department of Teaching and Learning
College of Education
346 Cleveland Hall, WSU
Pullman,Washington, 99164–2132

jegbert@wsu.edu