The relationship between writing strategies and personality types of graduate Iranian EFL learners

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Abstract
In recent years, language learning research has been paying more attention to the factors that may affect the choice by language learners of language learning strategies in general and writing strategies in particular to enhance their own learning. Given the socio-cognitive nature of the act of writing, as Roca de Larios et al. (2002) note, both writer-internal and -external factors have been reported to influence the deployment of writing strategies. Personality type, as one of the influential internal factors among others, is the focus of the present study, which intended to investigate English language learners' writing strategies with reference to their personality types at different universities in Iran. To this end, a writing strategy questionnaire was employed to tap into the memory, cognitive, compensation, metacognitive, social, and affective strategies of 210 participants. The Myers-Briggs Type Indicator questionnaire was utilized to identify the self-reported personality types of Iranian EFL learners. The analysis of the participants' perceptions demonstrated a significant relationship between writing strategies and personality types. Furthermore, it was found that metacognitive and cognitive strategies were the most frequently used strategies and memory strategies the least frequently used ones as reported by the participants.

Keywords: Iranian EFL learners; Myers-Briggs Type Indicator Questionnaire; personality types; writing strategies

Introduction

Over the last few decades, an extensive body of research has been accumulated in the field of second language writing, revealing that research in this field is a rapidly growing area in second language acquisition (e.g. Kroll, 1990; Leki, 1995; Petric & Czarl, 2003; Wong, 2005). According to Silva and Brice (2004), the reason that research on second language writing has become an important if not overriding focus of work in second language studies partly comes from globalization and the need to use computer literacy in order to communicate in writing with others. Further, the shift in emphasis from the product of writing to the recursive and non-linear process and the social context of writing has had a profound effect on the perception of how writing develops. All these factors have contributed to "the legitimacy of this area of inquiry" as an independent one in second language acquisition research (Silva & Brice, 2004, p.70).

Researchers have come to accept the inevitability of writing strategies as being prominent in second language acquisition research (e.g., Dehghan & Razmjoo, 2012; Abdollahzadeh, 2010; Mu & Carrington, 2007; Petric & Czarl, 2003). The research

suggests that learners must be made aware of and equipped with appropriate second language writing strategies. Awareness raising might in fact focus on specific strategies such as macro-strategies of planning, drafting and revising, micro-strategies of consulting with teachers and classmates, re-reading and writing out the writing prompts, and self-regulation strategies of goal setting, self-monitoring and self-evaluation (see Leki, 1995; Wong, 2005). Therefore, examining the kinds of strategies second language writers deploy can offer insights into what writers think they are doing or should be doing and thus increase their understanding of the specifics of the writing process (Silva, 1990). By the same token, as Grabe (2001) suggests, such inquiries can help develop a "predictive model" of the construct of writing which can be useful for instructional, research, and educational practices, and for curricular planning and assessment. Equipped with the right writing strategies, second language learners can better understand, assess, and consequently improve their learning and writing, and thus become more autonomous second language learners (Bloom, 2008).

One variable that may play a role in learners' preference for one writing strategy over another is personality type. The rationale for the present inquiry is that strategy instruction should be geared to learners' individual and situational or group needs (Takeuchi, Griffiths, & Coyl, 2007). Moreover, as Chastain (1988) noted, writing lends itself most naturally to individual practice. That is, no two learners are the same and their different learning backgrounds and personalities will influence how they approach writing tasks in a second language. The great difficulties that second language writers experience in expressing themselves in English (see Hyland, 2003) might originate from individual differences as the point of convergence of different linguistic, social, and psychological factors. Therefore, it can be assumed that the individual learner's approach to writing is to some extent shaped by individual differences. As Ehrman and Oxford (1995, p.324) suggest, research aiming at probing psychological factors is promising in that it offers "an accessible conceptual framework" for language trainers to enhance learners' self-regulation.

With the above-mentioned concerns, a number of researchers (e.g. Callahan 2000; Dörnyei, 2005; Cohen & Macaro, 2007; Marefat, 2006) propose that learners' goals, attitudes, personality types, and abilities, which are likely to be crucial factors in their successful acquisition of writing skills, should be considered in second language research. The present study was an attempt in this direction to examine the relationship between writing strategies and personality types of Iranian EFL learners. A brief review of the relevant studies done in these two areas is presented below.

Second language strategy research
Oxford (1990) classified learning strategies to *direct* and *indirect* ones. *Direct strategies*, including memory, cognitive, and compensation strategies, are "those behaviors which directly involve the target language and directly enhance language learning" (p.10). *Memory strategies* are concerned with storing new information in memory for later retrieval and use. *Cognitive strategies* deal with "the actual mental processes involved in developing a text while writing" (Abdollahzadeh, 2010, p.66). These may include relating old information to new information, making connections and inferences, and applying background knowledge. *Compensation strategies* compensate for deficiencies in the writer's limited knowledge base. *Indirect strategies*, including metacognitive, affective, and social strategies, are "those

behaviors which do not directly involve the target language but are nevertheless essential for effective language learning" (Oxford, 1990, p.450). *Metacognitive strategies* are the executive strategies which learners utilize to monitor, plan, hypothesize, and evaluate their performance on learning tasks, as in planning before writing. *Social strategies* involve seeking help from teachers, peers, and others. *Affective strategies* are techniques helping learners to better handle their emotions, attitude, and motivation in their writing tasks. Ellis (1994) asserts that Oxford's taxonomy of language learning strategies is a thorough and efficient categorization and can be adopted and used in particular task setting. The implication is that the taxonomy of learning strategies can be applied to writing tasks.

There is an ample body of research on both general and specific writing strategies that second language learners utilize when producing a text in the target language. These studies on writing strategies have referred to:

- general macro writing processes L2 writers deploy in writing tasks such as planning, writing, and revising (Hatasa & Soeda, 2000; Sasaki, 2000, 2002);
- the different writing behaviors of first and second language writers (Lally, 2000a; Raimes, 1991);
- the use of very specific strategies like patch writing, avoidance, backtracking, evaluation, rehearsing, reformulation, rhetorical refining (Manchón, Roca de Larios & Murphy 2007, p.231);
- the use of the first language in second language writing (Cohn & Brooks-Carson, 2001; Wang & Wen, 2002);
- the impact of specific strategies or categories of strategies on either second language writing achievement (Olivares-Cuhat, 2002) or proficiency (Aziz,1995); and

- how writers perceive and think about writing tasks (Cumming,1989; Petric & Czarl, 2003).

In her study of writing strategy use and achievement, Oliveras-Cuhat (2002) found that her students most frequently utilized cognitive strategies. Aziz (1995) emphasized the importance of cognitive strategies in her study of writing proficiency. The results of the study, however, indicated that those second language students who used both cognitive and metacognitive strategies in their English writing were able to outperform those who used cognitive strategies alone. Baker and Boonkit (2004) investigated the reading and writing strategies of successful and unsuccessful students in an English for Academic Purposes (EAP) context in Thailand using Oxford's classification of strategies. The results of the study showed that metacognitive, cognitive, and compensation strategies were the most frequently used ones. Likewise, Mu and Carrington (2007) reported that, overall, post-graduate Chinese students used rhetorical strategies, metacognitive strategies, cognitive strategies, and social/affective strategies in their writing practice. Overall, these studies show the tendency of second language learners toward the use of cognitive and metacognitive strategies in their English writing.

Research into the use of strategies by Iranian learners in their English language writing is limited. There appear to be few studies on writing strategies featuring Iranian participants. In one study, Yaghoubi (2003) examined the writing strategy use among "high anxiety" and "low anxiety" Iranian undergraduate EFL writers and found that the former group of writers made less use of cognitive, metacognitive, social, affective, compensation, and memory strategies compared with the latter group. Both groups used metacognitive strategies most

often and affective strategies least often. In another study, Abdollahzadeh (2010) examined English language learners' writing strategies with reference to their gender and years of study. In this study, Abdollahzadeh found that metacognitive and cognitive strategies were the most frequently used strategies by all writers. It was further found out that both the low-level and high-level (defined by year of study) male and female learner–writers used writing strategies with approximately the same frequency. These two studies show that the most frequently used writing strategy is the metacognitive one among undergraduate Iranian learners of English. Fahandezh Sadi and Othman (2012) investigated Iranian undergraduate learners' writing strategies with reference to their different writing abilities. The findings revealed that the two groups of writers were different in their planning, drafting, and reviewing behaviors. Specifically, good and poor writers differed in employing certain strategies like rereading, repetition, use of the mother tongue, and rehearsing. Such findings are important because they suggest that there might be some consistent patterns of strategy differences in the ways good writers compose their texts, compared with poor writers. It is noteworthy, however, that one might not generalize the Fahandezh Sadi and Othman findings because of the small number of the participants.

The other strand of research on Iranian EFL learners' writing from the socio-cognitive perspective looked into post – graduate students' composing strategies. In his longitudinal study, Riazi (1997) reported three sets of composing strategies, namely cognitive, metacognitive and social strategies, employed by postgraduate students. Likewise, Dehghan and Razmjoo (2012) concluded that rhetorical, socio-affective and cognitive strategies are used more widely and metacognitive and social

strategies less often by postgraduate students in a foreign language context.

Personality type in research on writing process

At early stages, the field of composition looked first at the *what* of writing, the product. It then added the *how* of writing, the processes. It then shifted its outlook to the "why" of writing with a focus on the affective and cognitive styles of the learners (Brand, 1987; Silva, 1990; Sasaki, 2000). This line of inquiry can be of help to teachers and researchers in understanding why second language writers are successful in some language activities but not in others, why they demonstrate certain writing behaviors but not others, and why they are fluent in producing certain written content but not in producing others (Jensen & Ditiberio, 1984).

One variable that may play a role in and affect the writing process is personality type (Callahan, 2000; Jensen & DiTeiberio, 1987; Marefat, 2007). This psychological notion was first put forward by Carl Jung (Jung, 1971), whose ideas were later developed by Katherine Briggs and her daughter, Isabel Myers, into a self-report instrument called the *Myers-Briggs Type Indicator* (MBTI) (Myers, 1987). The MBTI measures personality along four bipolar dimensions: Introvert (I) – Extravert (E), Sensing (S) – Intuition (I), Thinking (T) – Feeling (F), and Judging (J) –Perceiving (P).

Kroeger and Thueson (1988), discussing the characteristics of the four type dimensions, mention that the Introvert–Extravert dimension involves the source of people's energy. If individuals derive their energy from their inner world of thoughts and ideas, they are considered as Introverts; Extraverts, on the other hand, derive their energy from the outer world of people and actions. The Sensing–Intuition dimension deals with the ways of

perceiving or taking in information. The Sensing type of individual makes direct use of seeing, hearing, tasting, smelling, or touching to record carefully the particulars of one's environment while the Intuitive type of individual gathers information heuristically which means they gather information in a more random manner rather than a sequential fact-oriented fashion. The Thinking–Feeling dimension is responsible for the decision-making function. The Thinking type makes decisions based on objective, analytic, and detached criteria while the Feeling type bases decisions on interpersonal factors. Finally, the Judging–Perceiving dimension refers to the desire for structure and closure. The Judging type of individual prefers to have things planned and decided while the Perceiving type of individual likes to keep things flexible and open-ended.

Very few researchers have examined learners' composing strategies and their MBTI index. In a seminal article, Callahan (2000) depicts the relationship between reflective writing and personality types derived from the MBTI. Extraverts, who respond to reflecting about the outer world, are better talkers than writers. Therefore, they do not go for keeping journals and preparing portfolios in which metacognitive processes are involved. Also, the extraverted students are field dependent and wish the instructor to set goals for them. Introverts, on the contrary, tend to set goals and standards in a given task. They are reluctant to ask for advice and prefer to complete their tasks alone. Callahan further adds that Sensing individuals find reflective writing an opportunity to go back and control whether they have missed anything. Their written product is verifiable, lengthy, and detailed. Intuitive types, however, often start their writing with the meaning of complex events and may overlook details essential to the readers' understanding of the text.

Callahan depicts Thinking individuals as writers who are interested in describing the pros and cons of issues in writing. They are more likely to organize their writing into clear categories and focus on clarity, to the point that they forget to interest the audience. Feeling types are less likely to follow an outline as closely as Thinking types do. Furthermore, Judging types may focus too soon or too much on revision. Perceiving types, on the other hand, tend to gather information indefinitely and have trouble limiting themselves to meeting deadlines.

As regards the Judging/Perceiving dichotomy, the judging individuals are depicted as writers who tend to set goals for future improvement easily; they may focus too much on revision. In contrast, the perceiving ones tend to resist explorations on their future planning and find it difficult to draw conclusions. In fact, their work is always in progress.

Likewise, Carroll (1995) addressed the mutual impact of the personality types of writers and raters on the rating of the written texts. The results indicated that the personality types of writers affected the ratings that their essays received, and the personality types of raters affected the ratings they gave to essays. In the same vein, Walter (1996) studied the distribution of personality types as measured by the MBTI in upper-level English, journalism, and business communication courses. The results showed that those students who were similar in personality types to both their instructors and the most prevalent personality types represented in their discipline tended to receive the highest grades. The studies mentioned above have provided good insights into the way personality types might interact with learners' performance. However, the researchers have a long way to go to probe the nature of this interaction. One promising line of research appears to be

the possible contribution of personality types to the use of writing strategies.

Although different taxonomies have been suggested to tap into the types of writing strategies (see Manchón, Roca de Larios & Murphy, 2007), the present study adopted Oxford's (1990) inventory to measure L2 writers' deployment of strategies. As language learning strategies are assumed to be directly related to personality-related factors (Ellis, 1994), it is reasonable to extend this assumption to second language skill-based strategies. Hence, there is justification for studying the relationship between individual variables such as personality type and writing strategy use. A study based on the former assumption is Ehrman and Oxford (1989), who conducted an investigation probing the relationship between personality types and strategy use adopting SILL (Strategy Inventory for Language Learning). Their results revealed that Extraverts utilized affective and visualization strategies more frequently than Introverts. However, Introverts made a greater use of strategies for communicating meaning than did Extraverts. Also, Intuitives employed affective strategies, and authentic language use, more frequently than Sensing people. The Feeling type of individuals showed a greater level of use of general study strategies than did their Thinking counterparts. One year later, Ehrman and Oxford (1990) conducted a study with 20 adults learning Turkish in the United States. The findings of the study indicated that Extraverts preferred social strategies and functional practice strategies, while Introverts preferred the strategy of learning on their own.

In a study conducted on 254 Japanese college students, Wakamoto (2000) found that Extraversion on the MBTI was significantly related to functional practice strategies and social-affective strategies, though unlike the Ehrman and Oxford

studies, introversion was not correlated with any preferred use of SILL strategies. Nikoopour and Amini Farsani (2010), in a study of 137 graduate Iranian EFL university students, reported that learners with Extravert and Introvert personality types did not show any significant difference regarding the use of language learning strategies. Both Sensing and Intuitive learners preferred to use affective strategies. The findings also indicated that Thinking as well as Feeling learners used memory and social strategies. Perceiving learners used two categories of strategies, cognitive and compensation, whereas Judging learners employed only compensation strategies. The picture emerged from the above studies suggests that personality types are related to the use of language learning strategies in general. However, the picture is far from clear due to the limitations of the studies including the types of language learners and the lack of due focus on skill-based strategies and their relationship with personality factors.

In the context of Iran, although there have been some studies focusing on the learners' use of skill-based strategies in their practice of writing in English (see Abdollahzadeh, 2010; Dehghan & Razmjoo, 2012; Fahandezh Sadi & Othman, 2012;), no study has addressed the relationship between learning styles and writing strategies. The gap becomes more evident when it comes to studies dealing with EFL students especially the mainstream graduate students. The present study was an attempt to examine the frequency of writing strategies and personality types of Iranian EFL learners and to probe the relationship between these two. The following research questions guided the research study:

1. Which categories of writing strategies do Iranian graduates use most frequently in writing in English?

2. What are the personality types of Iranian graduates based on data collected through the MBTI questionnaire?
3. What is the relationship between the personality types of Iranian graduates and their writing strategy preferences?

Method

The present study was conducted in a number of universities in Iran, where TEFL courses are offered at both PhD and MA Levels. The post-graduate students' formal writing experience before entering the MA program was basically limited to two obligatory undergraduate courses in writing, namely, Principles of Writing and Essay Writing. In their MA program, they had to take the course entitled 'Advanced Writing', or as labeled by some instructors 'Writing in English for Specific Academic Purposes', with the focus on academic writing. The purpose of this course is to review the basic features of English academic rhetoric in order to help MA students develop an ability to write acceptable (academic) texts in English as a Second/Foreign Language (ESL/EFL), and to help them use their individual writing processes to construct academically well-argued texts in a familiar genre and transfer this ability to produce texts in an unfamiliar genre. Some topics that may be covered in this course include unity (coherence and cohesion), expository paragraphs, essay writing, writing summaries, resumes, critiques, writing abstracts, introduction to research articles, writing argumentative texts, and writing a proposal and a thesis. In Iranian universities, the product-based approach to writing is still in use (Birjandi & Malmir, 2009).

The participants were 220 male and female Iranian EFL learners between the ages of 23-30 studying English at the graduate level. All of whom had registered for the Advanced Writing course of the graduate program of the universities in which the study was conducted. The estimated proficiency level of the participants, as reported by the instructors, was upper intermediate or advanced. The participants who volunteered to take part in the study came from five universities of high reputation in Tehran. Attempts were made to make the sample as representative as possible by selecting the participants from the high-ranking universities. The criteria for selecting the universities consisted of: the rank-ordering of Iranian universities based on qualified ELT (English Language Teaching) faculty members and educational facilities, as well as the typical weight and importance ascribed to TEFL programs at graduate level in Iran. Participants had all passed the Iranian national matriculation examination for entering university and had achieved a BA degree either in English language and literature or English translation. The reason why the participants were selected from among graduates was the importance given in the graduate program to students' development of writing skill due to its crucial role in reporting MA research in the form of a thesis of extensive length, almost 18000 words.

The instruments utilized in this study consisted of two questionnaires, namely a Writing Strategy Questionnaire and the Myers-Briggs Type Indicator (MBTI) questionnaire. The *Writing Strategy Questionnaire* (Abdollahzadeh, 2010), developed in Persian with reference to Oxford`s (1990) classification of language learning strategy types, was used to gain information on the writing strategies adopted by language learners. The purpose of this questionnaire was to identify which writing strategies these learners were using. The first section of the questionnaire gave information about the purpose of the questionnaire and elicited background information on the participants' age, gender, and university. The second part of the questionnaire

consisted of 45 items developed on the basis of the subcategories of strategies highlighted by Oxford (1990) with each strategy type tapping into the participants' use of memory, cognitive, compensation, metacognitive, social, and affective strategies in writing. The calculated Cronbach Alpha was 0.84, showing a high degree of internal consistency.

The MBTI questionnaire is one of the most well researched personality scales. Kirby and Barger (1998) have reported on a wealth of studies providing "significant evidence for the reliability and validity of the MBTI in a variety of groups with different cultural characteristics" (p.260). In the same vein, Murray (1990) examined the psychometric quality of the MBTI and reported that this instrument has acceptable reliability and validity. As for the construct validity of this questionnaire, a number of researchers have confirmed the four factors predicted by the theory (e.g. Harrington & Loffredo, 2010; Tischler, 1994). Consisting of 60 self-report items, the MBTI measures personality preferences along four scales: Extraversion–Introversion, Sensing–Intuition, Thinking–Feeling, and Judging–Perceiving. This instrument has acceptable reliability and validity (Marefat, 2006). In the current study, the Persian version of MBTI (Nikoopour & Amini Farsani, 2010) was used. Cronbach's Alpha was used to estimate the reliability of this version and, as reported, it was 0.78.

Data were collected using the *Writing Strategy Questionnaire* and the *MBTI questionnaire*. Access to participants was gained through the researchers' contacts at the universities. The classroom instructors were briefed with regard to the purposes of the study and the data collection procedures. A uniform procedure was followed at all five universities to collect the questionnaire data. The instructors briefly described the purpose and design of the questionnaires and explained to their students how they should respond to them. The participants were required to answer the questions with respect to the specific writing course they had taken so that they could answer the items with more confidence (Petric & Czarl, 2003).

Results and discussion

The first research question dealt with the types and frequency of the writing strategies utilized by the learners. Table1 presents the mean and standard deviation of data set.

Table 1: Descriptive statistics for writing strategies

Strategy	N	Mean	SD	Rank
metacognitive strategies	210	3.56	.45	1
cognitive strategies	210	2.84	.48	2
affective strategies	210	2.69	.39	3
social strategies	210	2.67	.54	4
compensation strategies	210	2.61	.56	5
memory strategies	210	2.12	.57	6

As can be seen in Table 1, the graduate Iranian EFL learners tended to use all types of writing strategies. The first two top mean scores go to metacognitive and cognitive strategies, showing that Iranian EFL learners mainly used these two strategy types in their second language writing. The lowest mean goes to memory strategy use, indicating that this is the least preferred strategy type for the participants.

The second research question targeted the personality types of Iranian graduates based on the collected data. Table 2 depicts the percentage of each bipolar personality type. Comparing the percentages, one can see which aspect of each bipolar strategy type is dominant among the participants. According to Table 2, the participants fall primarily into the dominant categories of Introvert (55%), Sensing (62%), Thinking (59%), and Judging (70%).

Table 2: Frequency distribution of four dimensions of personality types

	F	P	VP	CF
Introversion	113	54.66	54.66	54.66
Extroversion	97	45.33	45.33	100.00
Intuitive	80	37.75	37.75	37.75
Sensing	130	62.25	62.25	100.00
Feeling	86	41.05	41.05	41.05
Thinking	124	58.94	58.94	100.00
Judging	147	69.96	69.96	69.96
Perceiving	63	30.40	30.40	100.00
Total	210	100.00	100.00	

F: Frequency; P: Percentage; VP: Valid Percentage; CF: Cumulative Percentage

To answer the third research question, a multiple regression analysis was run. Table 3 reports on the ANOVA which was run to assess the overall significance of our model. As Table 3 shows, the one-way ANOVA results show a significant overall relationship between the predictor, personality types, and the predicted variable, writing strategies (F = 60.929, p<0.05).

Table 3: Summary of one-way ANOVA

Model		SS	DF	MS	F	Sig.
1	Regression	6567.55	6	1094.59	60.92	.000
	Residual	3646.92	203	17.96		
	Total	10214.48	209			

a. Predictors: (Constant), Judging, Introvert, Feeling, Intuitive, Extravert, Sensing
b. Dependent Variable: writing strategies

The existence of a significant relationship between personality types and writing strategies as a whole was supported by the ANOVA results. In order to estimate the contribution of each of the individual variables, the standardized beta coefficients were calculated (Table 4). The beta value indicates the weight of the predictor value. For example, a beta value of 0.26 shows that a change of one standard deviation in the predictor variable (personality types) will result in a change of 0.26 standard deviation in the criterion variable (writing strategies).

Table 4: Summary of standardized beta coefficients

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	SE	Beta	t	Sig.
(Constant)	37.843	45.834		.826	.410
Introvert	.302	.389	.078	.364	.439
Extravert	-.157	.383	-.093	-.409	.683
Sensing	1.018	3.039	.050	.335	.738
Intuitive	.109	3.035	.054	.036	.971
Feeling	-.489	.093	-.268	-5.245	.000
Judging	-.373	.090	-.179	-4.162	.000

a. Dependent Variable: writing strategies

As can be seen in Table 4, only the two personality types of Feeling and Judging have a significant relationship with writing strategies, since their p values are less than 0.05. This result shows that the personality types of Feeling and Judging were much stronger predictors of the use of writing strategies such as memory, compensation, affective, social, metacognitive, and cognitive strategies compared with the other personality types.

Discussion

With regard to the first research question, the results showed that Iranian EFL learners at the graduate level reported employing all of the different types of writing strategies. The two top preferred strategy types for them were metacognitive and cognitive strategies. The least preferred strategy type was the memory writing strategy. The rank-order of the self-reported use of strategy types by the participants was: metacognitive> cognitive> affective> social> compensation> memory strategies. This finding, of course with a slight change in the rank, confirms the previous research literature (Aziz, 1995; Dehghan & Razmjoo, 2012; Oliveras–Cuhat, 2002). It also supports the finding that metacognitive strategies are the most frequently used writing strategies by Iranian learners of English as a foreign language (Abdollahzadeh, 2010;

Yaghoubi, 2003; Riazi 1997). Furthermore, compensation and memory strategies were found to be the least frequently used strategies by the Iranian graduates. This finding is again in line with the other studies done in Iran (Abdollahzadeh, 2010; Nikoopour & Amini Farsani, 2010; Yaghoubi, 2003). A likely interpretation of the more frequent use of metacognitive writing strategies in these high-ranked universities can be the nature of academic endeavors in these universities. In Iranian universities in general explicit instruction is commonly adopted in the course of Academic Writing. Educational academic contexts like that of Iran in which learners are expected to operate is a pre-determined way are seemingly incompatible with the creation of a metacognitively-enhanced atmosphere which can give way to learners' collaborating with each other, seeking practice opportunities, setting goals and objective, schedualing, planning, self-monitoring, and self-evaluating during the writing process (Abdollahzadeh, 2010). This is confirmed by some researchers such as Birjandi and Malmir (2009) who assert that, in the context of Iranian universities, teaching English writing is based on the traditional approach which seems less likely to enhance a free-writing culture among the students. The most frequent use of metacognitive writing strategies suggests that the approach to teaching writing is in the process of change at least in the top universities where the present study was conducted. A second reason for the most frequent use of metacognitive strategies might lie in the fact that the learners who took part in the present study were among the most proficient post-graduate students compared with their peers in other universities and as a result were more metacognitively equipped for the writing process. As argued by Abdollahzadeh (2010), the rather low use of memory strategies, on the other hand, may be attributed to the fact that Iranian graduate

EFL majors do not employ mnemonic devices to improve their writing and to revise and contextualize novel vocabulary items or grammatical structures in their compositions possibly because of the adequacy of their linguistic competence which might keep them away from using this type of writing strategies.

Regarding the second research question, Iranian EFL learners at the graduate level tended to be more Introverts than Extraverts, more Sensing than Intuitive, more Thinking than Feeling, and finally more Judging than Perceiving. This finding is in line with prior research which classified male and female graduate and undergraduate Iranian EFL students and their teachers into the Intuitive, Sensing, Thinking and Judging types (Marefat, 2006).

With regard to the contribution of personality types to the selection and use of writing strategies, the results showed that only the contribution of Judging and Feeling personality types was significant. We know that judgers have a natural preference for control, planning, structure, and organization. As mentioned by Jenson and Ditiberio (1984: 290) "Judgers naturally tend to work best in a structured, arranged learning situation, and they like to plan their work ahead."

The Judging and Feeling personality types as the dominant ones among the participants reflects the status of teaching and learning of English language, especially writing, in the context of Iran, as reiterated by a number of researchers who have worked in the Iranian context (e.g. Abdollahzadeh, 2010; Akbari, 2008; Birjandi & Malmir, 2009, Kiany & Movahedian, 2012). As a case in point, Kiany and Movahedian (2012: 51) assert that one of the most significant problems with language education in Iran is "the kind of quantitative orientation taken toward education in general and language

education in particular. In other words, the emphasis has been given to the products rather than processes of education." In line with Kiany and Movahedian (2012), Anani Sarab (2010) confirms that the traditional approach with an emphasis on language forms and structures is noticeable in the foreign language curriculum. The views expressed suggest that, with the regimented approach to language teaching in Iran, the learners are not provided with opportunities to improvise and explore learning in new contexts. Under such circumstances, the results of the present study with regard to the contributing personality types to the selection and use of writing strategies are not surprising.

Limitations

The major limitation of this study is our reliance on self-reported data. The results of this study should be complemented by other studies eliciting other sources of data, such as introspective data, learner logs, journal writing etc. Moreover, the correlational approach to probing the relationship between personality types and writing strategies limit the interpretation to the relationship of the variables of interest ignoring the impact of other variables such as anxiety, motivation, and gender on the personality and the writing of the writers. Therefore, researchers are advised to adopt a multimethod approach to identifying personality types of the writers. More sophisticated statistical techniques (such as structural equation modeling) that are capable of showing cause and effect relationships are in order (Ellis, 2008). Because of the limited scope of this study, researchers were not able to study all effective variables in the use of writing strategies and their probable links with personality types. Therefore, to further validate the results of the current study, further research is needed to probe the other factors influencing the deployment of these specific strategies in the Iranian EFL context.

Conclusion and implications

One of the major outcomes of the present study is that writing-based strategies were employed differently by EFL post-graduate students. They used metacognitive writing strategies most frequently and memory strategies the least frequently. Another outcome is that the only personality types being related to writing strategies were Feeling and Judging indices.

A number of studies have examined the writing strategies which learners employ in different contexts. However, the relationship between writing strategies and personality types has remained under-researched. The literature is replete with persuasive arguments in favor of the benefits to teachers of being aware of learners' needs and individual differences across different contexts and tasks (e.g. Ellis, 2008). The study reported here provides support to the notion that the relationship between personality types and strategies is moderated by the context of teaching and learning. Data coming from diverse contexts can provide a better picture of this relationship since the effects of personality might be situation-dependent, obvious in some learning contexts or tasks but not in others (Dörnyei, 2005).

The findings of the present study have several implications for EFL instruction, especially with regard to teaching writing. Investigating what strategies second language writers employ can provide useful insights into what writers think they are doing or should be doing and thus increase their understanding of the specifics of this process (Silva, 1990). As suggested by Grabe (2001), our better understanding of the writing process can enhance the predictive power of pedagogic models of writing. Since Iranian EFL graduates showed that they had utilized metacognitive writing strategies mostly and memory strategies in the lowest

degree, it is reasonable to suggest awareness raising with regard to the preferred writing strategies among instructors and students.

Given the product-based approach to language teaching in Iran, this line of inquiry should help teachers understand the possible reasons underlying the variable performance of students and their lack of success in writing activities which are not compatible with their preferred strategies. Moreover, learners' awareness of their personality types might lead to more efforts on their part to develop their natural strengths and propensities. Regarding the instructors, such awareness might aid in methodological choices, helping in the recognition of individual differences and improving teacher–student understanding. Consequently, teachers can equip their learners with a mechanism to see their own progress in learning and the contribution of strategies in accomplishing writing tasks. The suggestion is that EFL learners are exposed to a complete inventory of writing strategies to be able to use the strategies they prefer depending on their personality type. In this way, learners' autonomy can be enhanced in writing tasks.

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