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The Relationship between Extraversion/Introversion and the Use of Strategic Competence in Oral Referential Communication

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Abstract

This study investigates the relationship between extraversion/introversion personality dimension and the use of strategic competence (SC) in oral referential communication by Iranian EFL learners. Referential communication refers to a kind of guided communication in which the referents (or topics) are given to the speakers to convey their meanings to the listeners. 50 sophomore English students of Arak University (in Iran) were selected from among 70 ones to participate in this study. Using the Persian restandardized version of the adult EPQ (Eysenck Personality Questionnaire, 1975) the subjects were divided into two groups of extravert and introvert. The homogeneity of the participants was determined by the Michigan test (1982) at the upper-intermediate level of proficiency. Each individual in the groups was given communicative tasks to communicate orally with a partner while his/her performance was tape-recorded and transcribed for later analyses. Then, the oral performance of the extravert group was compared with that of the introvert group in using compensatory strategies (CSs) in terms of type and frequency as identified by a taxonomy. The results revealed that, as far as total performance is concerned, extravert participants used **interactional** strategies and a sub-type of linguistic strategies i.e. **transliteration** significantly more than introvert ones whereas introvert participants used **conceptual** strategies significantly more than extravert ones. Thus, it can be concluded that the personality trait of extraversion/introversion is associated with L2 learners' preference in using, at least, some types of CSs in oral referential communication. The findings can have some pedagogical significance.

Keywords: Extraversion/Introversion, Strategic Competence (SC), Compensatory Strategies (CSs), Oral Referential Communication, Communicative Tasks.

1. Introduction

Researchers have specified three general sets of factors which contribute to individual differences in L2 learning: *cognitive, affective and social* (Skehan, 1989). Among the affective factors, “personality traits” comprise a particular dimension called Extraversion/Introversion (hereafter EXT/INT) which has received the greatest attention in L2 learning. According to Eysenck and Eysenck (1985), EXT/INT is a continuum which shows one's degree of outgoingness; a typical extravert is a person who tends to be sociable, needs people to talk to, is easy-going and optimistic, while a typical introvert is quiet, reserved, plans ahead, and dislikes excitement.

Studies on communication strategies go back to Selinker (1972) who considered using “*communication strategies*” as one of the five central psychological processes of interlanguage (IL) in second language acquisition (SLA). After Hymes (1972) introduced her notion of “communicative competence” as a result of the inadequacies of Chomsky's (1965) “linguistic competence”, Canale and Swain (1980) regarded Hymes' theory as being too broad to be investigated and applied to language teaching. They proposed a model for studying communicative competence including four sub-competencies: (1) linguistic competence (the knowledge of linguistic codes), (2) sociolinguistic competence (the knowledge of the social adequacy of rules of language use), (3) discourse competence (the knowledge of combining grammatical forms and meanings to achieve a unified text in different genres), and (4) *strategic competence* (the knowledge and/or ability to use verbal and non-verbal communication strategies to cope with communication problems).

It is becoming increasingly evident that a *more* practical approach to developing learners' communicative competence is probably to develop their *strategic competence* and their ability to use compensatory strategies (CSs) in order to solve their own communication problems both in oral and written communication (Widdowson, 1990; Ahmadian, 1995; Kasper and Kellerman, 1997; Omaggio Hadley, 2003; Lantolf, 2006). In second /foreign language teaching, if we, as teachers, want to develop the learners' communicative abilities, obviously, we must consider those factors which influence the learners' use of communication and compensatory strategies. One of the significant factors which has been claimed to influence the learners' oral performance (Ellis, 1994; Brown, 2000), and their use of communication/compensatory strategies is the personality trait of EXT/INT (McDonough, 1986; Ehrman et al., 2003; Littlemore, 2003; Yadegari, 2007).

It is generally claimed that extravert learners are probably more successful and fluent than introvert ones in oral communication (Dewaele and Furnham, 1999; Ellis, 2004). To evaluate this claim, it is necessary to find out what kind of strategies extravert and introvert learners use and how they deal with different communication problems. To our best knowledge, so far, there have been few attempts to investigate the possible links of EXT/INT with the use of strategic competence in oral (referential) communication. Thus, the present study attempts to shed some light on this issue.

2. The Background

2.1. Studies on Extraversion/Introversion in L2 Learning

Studies on EXT/INT dimension of personality factors were initially introduced by Carl G. Jung (1933). EXT/INT is often thought of as being bipolar, but in reality, it occurs along a continuum which shows one's degree of outgoingness; people who fall at the extremes have clear preferences. Eysenck and Eysenck (1985) characterize a typical extravert as a person who tends to be sociable, needs people to talk to, craves excitement, takes chances, is easy-going, and optimistic. By contrast, a typical introvert is quiet, retiring, reserved, plans ahead, and dislikes excitement. Based on the existing literature, psychologists have proposed the general characteristics of extraverts and introverts (Taylor, 1998, p.10) as follows:

General Characteristics of Extraverts:

- Talk more and tend to take actions with less reflection.
- Are good at interpreting body language and facial expressions.
- Are good at tasks involving short-term memory.
- Prefer quicker, less accurate approach.

General Characteristics of Introverts:

- Talk less and reflect more before acting.
- Are better at reflective problem-solving tasks and tasks involving long-term memory.
- Like to work independently or with one or two other people.
- May have problems in establishing relationships with others.

Lightbown and Spada (2006) state that many classroom teachers believe that in second or foreign language learning, extraverts are more successful than introverts, particularly in their communicative

ability. Ellis (2004, p. 541) cites that Dewaele and Furnham (1999) in a review of some 30 articles on the issue came to the conclusion that "in oral communication, extraverts were found to be generally more fluent than introverts both in L1 and L2, but on other aspects of L2 proficiency there exists a weak relationship with extraversion". Dornyei and Skehan (2003, p. 590) also conclude that "progress in this area has been slow, in terms of both methodology and systematic patterns of results... and further research is needed in order to come to sound conclusions".

The research literature on EXT/INT shows that EXT/INT has tended to be overlooked from L2 research and has been considered as the "unloved" variable (Dewaele & Furnham, 1999). There have been a limited number of studies on EXT/INT and different kinds of learner strategies which are reviewed in the following lines.

Ehrman and Oxford (1990) found an important relationship between EXT/INT and learner strategies of 20 adults learning Turkish as a foreign language. They found that extraverts preferred social strategies such as asking for clarification, and functional practice strategies such as seeking practice opportunities outside of class while introverts preferred to learn alone and avoid social contacts and spontaneous situations. Wakamoto (2000) also studied the relationship between EXT/INT and language learning strategies of 222 Japanese EFL learners. He found that functional practice strategies and socio-affective strategies significantly correlated with extravert learners, but with introverts, he could see no preferred language learning strategies. He also concluded that extravert learners will ask for clarification more readily than introverts, so they improve their chances for input needed for developing an interlanguage.

In another study, Wakamoto (2007) examined the impact of EXT/INT and associated learner strategies on English language comprehension. He observed that extravert Japanese EFL learners used socio-affective strategies more frequently than introvert ones. Yadegari (2007) observed that in written communication, extravert EFL learners used **interactional** strategies and a sub-type of linguistic strategies i.e. **transliteration** more frequently than introvert ones whereas introvert EFL learners used **conceptual** strategies more than extravert ones. In another recent study, Gan (2008) investigated the impact of extraversion on pronunciation, communication strategies, vocabulary and language patterns of L2 learners in Hong Kong. The results of analyses indicated that communication strategies correlated with extraversion although this correlation did not reach the

significance level. To him, extraverts seemed to employ communication strategies more than introverts.

2.2. Studies on Strategic Competence (SC)

As mentioned earlier, studies on communication strategies go back to Selinker (1972). Later on, Varadi (1973) and Tarone (1980) elaborated on Selinker's notion of communication strategies. Corder (1983, pp.16-17), in his primary taxonomy of communication strategies, put the strategies into two categories: (i) *reduction* or *avoidance* strategies, which are message abandonment strategies and (ii) *achievement* strategies, which are, in fact, those that the learner uses when s/he cannot gain access to the linguistic resources required to communicate the intended meaning, e.g. using mime, circumlocution, asking for help, etc.. The taxonomy was then elaborated and used by other researchers (see Paribakht, 1985, 1986; Scholfield, 1987; Tarone and Yule, 1989). Later on, achievement strategies became the major concerns of studies on communication strategies and were referred to as *compensatory strategies* (Faerch & Kasper, 1984, 1986; Poulisse, 1990).

In the second half of the 1980s and the beginning of the 1990s, the Nijmegen University researchers criticized traditional taxonomies as being product-oriented and focusing on the corpus; alternatively, they proposed a new process-oriented taxonomy focusing on the underlying psychological processes of compensatory strategies (CSs). This taxonomy consists of two categories of strategies, each having some sub-categories, as follows (see Bongaerts & Poulisse, 1989; Poulisse, 1990):

1. Linguistic strategies:
 - a. morphological creativity
 - b. transfer
2. Conceptual strategies:
 - a. holistic strategies
 - b. analytic strategies, consisting of three subcategories:
 - (i) *partitive* strategies
 - (ii) *linear* strategies
 - (iii) *analytic componential* strategies

Although the Nijmegen taxonomy is one of the most comprehensive "process-based" taxonomies (Cook, 1993), it has received some major criticisms. For example, Ahmadian (1995, pp.74-76) argues that the taxonomy ignores "interactional strategies" which are crucial in activating strategic competence in communication, and

are of the requirements of referential communication. In addition, he claims if strategic competence (SC) is one of the components of communicative competence as suggested by Tarone and Yule (1989) and Bialystok (1990), then L1 speakers have also SC, and they use compensatory strategies when they come to solve communication problems. Accordingly, elaborating the Nijmegen taxonomy, Ahmadian (2001) suggests a more comprehensive taxonomy of both L1 (native) and IL (non-native) speakers' SC. The taxonomy consists of three archistrategies: **linguistic**, **conceptual**, and **interactional**. Each archistrategy consists of several types of strategies as follows (pp.157-159):

A. Linguistic Strategies

(I) General Compensatory Linguistic Strategies:

1. Metalinguage: The speaker provides metalinguistic information of the referents.
2. Superordination: The speaker provides semantically related superordinate terms or descriptions of the concepts.
3. Synonymy: The speaker gives a word or a short phrase that is semantically related to the referents.
4. Antonym: The speaker uses a word or a short phrase which has the opposite meaning of the concept.

(II) IL-based Linguistic Strategies:

1. Transfer: The IL speaker transfers some (socio)linguistic and/or cultural features of his/her own L1 in activating IL SC.
2. Transliteration: The IL speaker literally translates the L1 lexical items into the target language (TL) to convey the intended meaning.
3. Overgeneralization: The IL speaker overgeneralizes the lexical items or other linguistic features of the TL to the situations which are not appropriate.

B. Conceptual Strategies

(I) General Conceptual Strategies:

1. Holistic Strategies: The speaker uses a similar or reminiscent name for the concept or referent, seeing it as a "whole" regardless of its parts.
2. Analytic Strategies: The speaker selects and describes the particular properties of the referents or concepts. These strategies include the following:
 - (i) *Partitive strategies*: The speaker describes some parts or features of the referent separately but connects each part to the whole structure of the referent.

(ii) *Linear strategies*: These strategies are used when a shape is broken up into its ultimate components such as lines, angles, spatial relations, etc. and the speaker describes them accordingly.

(iii) *Analytic componential strategies*: The speaker divides the referent or concept into its components or semantic features and describes each relevant component separately or in relation to the other components.

(II) IL- based Conceptual Strategies

Word-coinage: The IL speaker creates, coins a word out of his/her L2 linguistic knowledge and uses it to stand for the target referent.

C. Interactional/Conversational Strategies

1. Comprehension check: The speaker uses strategies such as “understand? ... got it? ...is that clear?, etc”, to be sure that the interlocutor has comprehended the message.

2. Self-repetition/Clarification: The speaker uses strategies such as “...I mean,...sorry...uh sorry, I say it again, I repeat it” to help the interlocutor to get the message.

3. Confirmation check: The speaker confirms that the referent has been identified and the interlocutor has got it correctly.

Using this taxonomy to study the use of CSs by two groups of Persian learners of English, Ahmadian (2001) found that more proficient L2 learners use more conceptual, metalinguistic, and superordination strategies, while less proficient L2 learners use more linguistic (antonyms and synonyms), and linear strategies. Following the psycholinguistic perspectives of CSs use, Kellerman and Bialystok (1997) offered a taxonomy of CSs based on the psychological processes of analysis and control which treats CSs as the outcome of cognitive activity. On the basis of the same perspectives, Poulisse (1997) suggested a new process-based taxonomy to study the underlying psychological processes of CSs use, learners’ cognitive activities, and their problem-solving behavior.

The sociolinguistic perspectives which have recently emerged in the field have tried to locate CSs in the context of social interaction. Within this framework, researchers have identified different roles for CSs in social interactions and have defined CSs as "the adjustments speakers make to the expression of their message in order to achieve communication" (Anani Sarab, 2004, p.2). Accordingly, studies on the use of CSs are seen to be central for two main reasons: as a support to facilitate the understanding of the L2 learners and as a resource to help

the L2 speaking teachers. In other words, these perspectives give CSs an interactive role which changes the concept of CSs from an intra-personal phenomenon into an inter-personal one (Rampton, 1997; Williams et al., 1997).

On the basis of these perspectives, Anani Sarab (2003) introduced a typology of CSs in which distinctions are made between two types of problems. First, are the "own-performance problems", which are solved by using CSs in production and comprehension. Second, are the "other- performance problems" caused by the limited proficiency of one's interlocutor requiring devices for adaptation to these needs (For a detailed review see Anani Sarab, 2004, pp 10-12).

An alternative approach to CSs research is to concentrate on individual differences between CSs users and to look for areas where these individual differences relate to differences in the patterns of communication strategy use (Littlemore, 2001). For example, Littlemore (2001) demonstrated that L2 learners' cognitive styles (holistic and analytic) are associated with their tendency to use different types of CSs. As well as their L1 and cognitive style, it is highly likely that L2 learners' personality characteristics (i.e. EXT/INT) would lead them to adopt certain types of CSs (Skehan, 1989; Littlemore, 2003). It has also been proposed that L2 learners' personality characteristics (i.e. EXT/INT) would lead them to use different types of learning styles and strategies (O'Malley & Chamot, 1990; Oxford, 1990; Kiany, 2001; Ehrman et al, 2003). Advantages of this approach to the study of SC are that it would give some insight into the psychological processes that underlie the use of CSs, and it might also help researchers to determine why different learners tend to use particular CSs (Littlemore, 2001).

It is believed that by teaching communicative/compensatory strategies, students' proficiency will increase (Omaggio Hadley, 2003). Moreover, providing and planning appropriate syllabus and activities for learners such as free discussion, mapping up a story, picture description, etc. will lead to both "cognitive and strategic development" (Munoz, 2007), and to develop learners' strategic competence, "we should teach speaking and writing through using appropriate problem-solving tasks to make their oral and written communication as meaningful as possible"(Lantolf, 2006, pp.21-23).

Thus, a better understanding of the variables which affect the use of SC may have clear implications for second/foreign language teaching. If it becomes clear that personality trait of EXT/INT is associated with L2 learners' preference for using various types of CSs

in oral (referential) communication, then the findings of this study may have some pedagogical significance: the findings may suggest some information and guidelines for providing appropriate communicative tasks and helping L2 learners develop their strategic competence in oral communication.

3. The Study

The present study attempts to investigate the possible links of the personality trait of EXT/INT with the use of SC-- manifestations of which are CSs-- in oral referential communication by two groups of Iranian EFL learners. Thus, our research question is as follows:

- Is there any relationship between EXT/INT and the use of strategic competence, i.e. using various types of compensatory strategies (CSs), in oral referential communication? In other words, do CSs that *extravert* and *introvert* EFL learners use differ in type and frequency?

Following the question and due to the exploratory nature of this study, a null hypothesis was made and investigated as follows:

- *There is no significant relationship between extravert/introvert learners and the use of CSs in oral referential communication.*

3.1. Participants

Two groups of 25 extravert and introvert Persian speaking EFL learners majoring English Translation and/or Literature at Arak University, Iran, were selected among a pool of 70 ones to take part in this study. Each group contained both male and female students, aged between 19 to 24. For each group, 25 other students who were almost at the same level of proficiency were selected as partners.

3.2. Instrumentation

Three instruments were employed in this study: EPQ, the Michigan test of proficiency, and communicative tasks. EPQ was used to measure the degree of EXT/INT of the subjects; the Michigan test was used to ensure the homogeneity of the participants' level of L2 proficiency. Communicative tasks were also used to create communication problems for the subjects and to elicit their SC.

3.2.1. EPQ

With a little adaptation from English EPQ, the Persian EPQ is considered as one of the most reliable and valid instruments for measuring the personality traits of the subjects (Kiany, 1998, 2001). As in many countries, EPQ has been restandardized in Iran. Nikjoo

(1982) in cooperation with Eysenck restandardized EPQ and administered it to a large sample of normal Iranian adults. The scale of extraversion (E) with normal samples showed a reliability of 0.74 for males and 0.80 for females (Nikjoo, 1982, cited in Kiany, 1998, p.115). As a result, the Persian EPQ was found a reliable and valid instrument for measuring the degree of EXT/INT of Iranian learners. However, there are some differences between the English EPQ and the Persian EPQ. The Persian version of EPQ (1975) measures three psychological traits of extraversion/introversion (E scale), neuroticism (N scale) and lie (L scale). The questionnaire comprises 57 Yes/No questions: twenty-four items are related to EXT/INT. Therefore, an Iranian adult could score between **zero to twenty four** on extraversion (E scale) so that *zero* indicates the *extreme introvert* and *twenty four* indicates the *extreme extravert*. Twenty-four items also measure neuroticism (N scale) and the rest of the nine items in the lie (L scale) examine the social desirability or lie of the participants. These items are randomly distributed throughout the questionnaire for its internal and external validity. Therefore, we cannot separate the twenty-four items relating to EXT/INT from the questionnaire and administer them individually.

3.2.2. The Michigan Test of Proficiency (1982)

As mentioned before, the Michigan test was used to make sure of the homogeneity of the participants' proficiency at the upper-intermediate level. As table 1 shows, a t-test revealed no significant difference between both groups as far as their proficiency level is concerned.

Table (1): Independent sample t- test comparing the mean scores of the two groups on the Michigan test.

Groups	Number	Mean	Variance	Standard Deviation
EXT	25	67.04	58.04	7.61
INT	25	66.96	86.58	9.30
Variances	T-value	df	Sig.(2-tailed)	Assumed level of Sig.
Equal	.094	48	.926	.05

3.2.3. Communicative Tasks

In order to explore the effects of EXT/INT on the use of SC in oral referential communication, tasks of elicitation should be so designed that they can create appropriate communication problems for the participants (directors) in communicating with their partners (matchers). In fact, since SC is task-based and so is referential communication (Ahmadian, 2001; Ellis, 2003), thus tasks of

elicitation are needed to impose communication problems and to activate subjects' SC. Referential communication is also a task-based process in which we can elicit the individuals' SC to solve communication problems by means of appropriate strategies (Poulisse, 1997). Therefore, three types of communicative tasks were used in this study to elicit the performance of participants' SC. The tasks were adapted from Poulisse (1990) and Ahmadian (1995, 2001) who used them for similar purposes (see appendix). They are as follows:

(i) Task one consisted of eight unconventional shapes/referents. In fact, this task was picture description-identification. (ii) The second task was concept description-identification consisting of eight words, each conveying an abstract concept. (iii) The third task was a story-telling activity comprising a short narrative of eight referents as communicative goals. Unconventional shapes and abstract concepts were used because they were supposed to create the same communication problems for all the participants and provide them with similar input. Narratives are believed to be more capable to create meaningful situations for the speakers of all languages, because they contain heavy semantic and conceptual burdens; therefore, they are more controllable for actual observations (Ahmadian, 2001). Also, narratives are believed to be "good means of motivating individuals to express experiences (events), and by these means, make meaning of what people know or do" (Lantolf, 2006, pp.171-2), and help us "understand the inner perspectives on the meaning of actions being studied" (Borge, 1998, p.11).

3.3. Procedures: Data Collection and Analyses

The experiment had been designed for mutual interactions: each subject, as the director/speaker, had a partner, as the matcher/listener. They were seated face to face at a booth in the language laboratory in separate sessions designed for each pair. The director, speaker, was to describe each picture/concept so that the matcher, listener, could identify it from among a set of alternative pictures/concepts. The performance of both groups was tape-recorded and transcribed for later analyses. Almost all of them finished their tasks within a 30-minute time limit.

Regarding the pros and cons of the existing taxonomies (Yule and Tarone, 1997), and with respect to the psycholinguistic perspectives to communication strategies, Ahmadian's (2001) taxonomy was applied to identify and classify CSs used by the groups. This taxonomy was used because it is a more comprehensive process-based taxonomy than the Nijmegen taxonomy for the reasons discussed above.

Furthermore, it is a learner-based taxonomy (focusing on learners) and thus more relevant to the purposes of this study, not a teacher-based one (focusing on teacher talk) like Anani Sarab's (2004) taxonomy and other newly developed ones, which are rather sociolinguistic-based.

It became clear that all CSs had been used by the participants but *word-coinage*, which is an IL-based conceptual strategy, so we excluded this strategy from the study. Next, the distribution of the types and frequency of CSs along with the total number of the strategies used by each group across different tasks were identified and calculated. The proportion of times each group had used each type of strategy was then calculated (see tables 2a & 2b below).

Table (2a): Distribution of types and frequency of CSs used by Extraverts across the tasks.

Strategies		Extraverts			
A.LINGUISTIC		Task I %	Task II %	Task III %	Total %
I. General	1. Metalanguage	0 0%	6 0.38%	9 0.58%	15 0.96%
	2. Superordination	0 0%	109 7.04%	106 6.85%	215 13.89%
	3. Synonym	0 0%	25 2.87%	24 2.04%	49 3.16%
	4. Antonym	1 0.06%	16 1.03%	10 1.55%	27 1.74%
II. IL-based	1. Transfer	0 0%	24 1.55%	2 0.12%	26 1.68%
	2. Transliteration	0 0%	5 0.32%	4 0.25%	9 0.58%
	3. Overgeneralization	4 0.25%	0 0%	0 0%	4 2.25%
Total		5 0.32%	185 11.95%	155 10.01%	345 4.56%
B.CONCEPTUAL					
1. Holistic		211 12.39%	0 0%	0 0%	211 12.39%
2. Partitive		76 5.89%	0 0%	0 0%	76 5.89%
3. Linear		26 2.72%	0 0%	0 0%	26 2.72%
4. Analytic componential		0 0%	80 5.04%	99 4.76%	179 9.82%
Total		313 21.01%	80 5.04%	99 4.76%	492 30.83%
C.INTERACTIONAL					
1. Comprehension check		32 2.06%	24 2.04%	51 3.29%	107 6.91%
2. Self-repetition		6 0.38%	4 0.25%	11 0.71%	21 1.35%
3. Confirmation check		194 12.54%	197 12.73%	191 12.34%	582 37.62%
Total		232 14.99%	225 14.54%	253 6.35%	710 45.89%
Sum		1547= 100%			

Table (2b): Distribution of types and frequency of CSs used by Introverts across the tasks.

Strategies		Introverts			
A.LINGUISTIC		Task I %	Task II %	Task III %	Total %
I. General	1.Metalanguage	0 0%	17 1.11%	10 0.65%	27 1.76%
	2.Superordination	0 0%	107 6.99%	94 6.14%	201 16.58%
	3.Synonym	0 0%	23 1.50%	28 1.83%	51 13.14%
	4.Antonym	0 0%	15 0.98%	7 0.45%	22 1.43%
II. IL-based	1.Transfer	1 0.06%	24 1.56%	2 0.13%	27 1.76%
	2.Transliteration	7 0.45%	6 0.39%	0 0%	13 0.85%
	3.Overgeneralization	1 0.06%	0 0%	0 0%	1 0.6%
Total		9 0.58%	192 12.55%	141 9.22%	342 22.36%
B.CONCEPTUAL					
1.Holistic		194 12.68%	0 0%	0 0%	194 12.68%
2.Partitive		114 7.45%	0 0%	0 0%	114 7.45%
3.Linear		60 3.92%	0 0%	0 0%	60 3.92%
4.Analytic componential		0 0%	80 5.23%	97 6.34%	177 11.57%
Total		368 24.06%	80 5.23%	97 6.34%	545 35.64%
C.INTERACTIONAL					
1.Comprehension check		26 1.70%	19 1.24%	32 2.09%	77 5.03%
2.Self-repetition		0 0%	2 0.13%	2 0.13%	4 0.26%
3.Confirmation check		193 12.62%	185 12.09%	183 11.96%	561 36.69%
Total		219 14.32%	206 13.47%	217 14.19%	642 41.98%
Sum		1529= 100%			

Concerning the hypothesis of the study, it was therefore thought to be more appropriate to use a statistical technique which allows for the comparison of the two groups in the use of each strategy; this technique has also been used by Littlemore (2001). Two sets of comparisons were carried out: (i) between-group comparisons in terms of the *total* CSs used for *all* the given tasks, and (ii) between-group comparisons in terms of CSs used for *each individual* task.

For each between-group comparison, first of all, we should use **NPar Tests**. Here, if the significance value (*Asymp. Sig 2-tailed*) of both groups is *higher* than the value of selected significance which is **0.05**, then we can safely assert that test distribution for both groups is normal and we can compare the mean scores of the two groups by **T-Test**. But, if **NPar Test** indicates that the significance value of *either* one of the extravert group or introvert group is *lower* than the value of selected significance i.e. **0.05**, then it shows that test distribution for that group is *not* normal. In this case, we should use **Mann-Whitney Test** instead of **T-Test** to compare the **mean ranks** of the two groups. For the reason of space, among a large number of comparisons, only

those which showed significant differences are provided here, tables 3 and 4.

3.4. Results of Measurements

3.4.1. Between-group Comparisons in the Use of Total CSs

The results of various comparisons revealed that there are no significant differences between extravert and introvert groups in terms of the total linguistic and conceptual strategies used to perform all the given tasks. But in case of the two sub-types of conceptual strategies, namely, **partitive** and **linear** strategies, and the total **interactional** strategies and the sub-types of interactional strategies including **comprehension check**, **self-repetition** and **confirmation check**, there were significant differences between both groups. That is, as table 3 indicates, the extravert group used interactional strategies including **comprehension check**, **self-repetition** and **confirmation check** more than the introvert group, and the introvert group used **partitive** and **linear** strategies more than the extravert group in performing all the tasks.

Table (3). Summary of between-group comparisons in the use of total CSs.

Compensatory Strategies	Group Differences	Asymp. Sig (2-tailed)
(1) Partitive.....	Extravert < Introvert	0.010*
(2) Linear.....	Extravert < Introvert	0.028*
(3) Interactional.....	Introvert < Extravert	0.028*
(3.1) Comprehension check.....	Introvert < Extravert	0.010*
(3.2) Self-repetition.....	Introvert < Extravert	0.009**
(3.3) Confirmation check.....	Introvert < Extravert	0.003**

* P<0.05 ** P<0.01

3.4.2. Between-group Comparisons in the Use of CSs for Each Task

(I) Task One

As mentioned earlier, task one was concerned with unconventional/abstract shapes. The results of various comparisons carried out for this task revealed that there are no significant differences between extravert and introvert groups in terms of linguistic strategies. But regarding the total **conceptual** strategies, and the two sub-types of conceptual strategies, namely, **partitive** and **linear** strategies, there were significant differences; the introvert group applied these strategies more than the extravert one. On the

other hand, the extravert group used **self-repetition**, as a sub-type of interactional strategies, more than the introvert group (see table 4 below).

(II) Task Two

The second task was concerned with abstract concepts. Similarly, the results of various comparisons carried out for this task revealed that there are no significant differences between extravert and introvert groups in terms of the total linguistic and conceptual strategies. But in the case of the total **interactional** strategies and a sub-type of interactional strategies i.e. **confirmation check**, we found that the extravert group applied those strategies more than the introvert one (see table 4 below).

(III) Task Three

The third task was a short narrative containing eight referents. The results of various comparisons performed for task three indicated that there were no significant differences between extravert and introvert groups in terms of the total linguistic, conceptual, and interactional strategies. However, as far as **transliteration**, as a sub-type of linguistic strategies, and **comprehension check** and **confirmation check**, as two sub-types of interactional strategies, are concerned, again, we found that the extravert group used those strategies significantly more than the introvert one (see table 4 below).

Table (4). Summary of between-group comparisons in the use of CSs for each task

Task	CSs	Group Differences	Asymp. Sig (2-tailed)
I	(1) Conceptual.....	Extravert < Introvert	0.024*
	(1.1) Partitive.....	Extravert < Introvert	0.010*
	(1.2) Linear.....	Extravert < Introvert	0.028*
	(2) Self-repetition.....	Introvert < Extravert	0.009**
II	(1) Interactional.....	Introvert < Extravert	0.023*
	(1.1) Confirmation check.....	Introvert < Extravert	0.002**
III	(1) Transliteration.....	Introvert < Extravert	0.039*
	(2) Comprehension check.....	Introvert < Extravert	0.023*
	(3) Confirmation check.....	Introvert < Extravert	0.025*

* P<0.05 ** P<0.01

4. Discussion

The results of between-group comparisons indicate that there exists a relationship between EXT/INT personality dimension and the use of CSs in “oral referential communication”. In order to arrive at a better understanding of the findings, let’s consider the strategies used for each task.

As mentioned before, task one was concerned with abstract/unconventional shapes. Therefore, conceptual strategies were very frequently needed to solve communication problems raised from the referents of this task. Moreover, this can be explained on the ground that there are no linguistic or lexical conventions for the shapes and the participants have to consider them not as lexical items. Psycholinguists argue that shapes have basic functions in concept formation and concept attainment in learning, in general, and FLA and SLA, in particular (Flawel et al., 1993). When concepts are formed in the learners’ (speakers’) mind through shapes, they have to use much more figurative language than other linguistic devices to verbalize the shapes for the audience and thereby to help them visualize the concepts since other linguistic devices are somehow limited and incapable of describing the unconventional shapes adequately. That is, shapes have to be described through other concepts which are available to the speakers and familiar to the listeners. For these reasons, the speakers attempt to apply analogies or similes to resemble the intended shape to some concrete objects and thereby to make them visual for the interlocutor. In such cases, the speakers may resort to analogy or simile and to use holistic strategies. But if these devices do not exist in the speakers’ lexical knowledge or if the holistic strategies do not work effectively, they will break the shape into its component parts and describe each component separately. Doing these, the speakers employ partitive and/or linear strategies.

The reason why the introvert participants used **conceptual** strategies (**partitive** and **linear** strategies) significantly more than extravert ones may be due to the fact that introvert learners because of their cortical over arousal have better long-term memory, more concentration ability, and are less easily subject to mental inhibition (Eysenck & Eysenck, 1985). Therefore, it is likely that in doing task

one, they might have appealed more to their lexical knowledge and ability in breaking the shape into its component parts and to describe each component separately.

However, as mentioned earlier, the extravert participants used significantly more **self-repetition** strategies than the introvert ones in performing task one. As far as the psychological characteristics of extravert participants are concerned, because extravert participants talk more, and they are good at interpreting body language and facial expressions (Taylor, 1998), therefore, they are likely to use **self-repetition** (as a sub-type of interactional strategies) more than introvert participants in oral communication. In addition, extravert learners are more experienced in oral communication than introvert ones and thus these strategies may have been automatized in their mind, and are used automatically by them. These findings support the findings of Bialystok (1990) and Kellerman and Bialystok (1997) who claimed that extravert learners prefer to use interactional strategies more than introvert learners in oral communication.

The second task was abstract concepts or words; therefore, no shapes could be used as analogy to stand for the whole or partial meaning of the concepts. That is, the concepts had to be communicated through linguistic means; thus, linguistic strategies were more needed than conceptual ones. However, in doing task two, we could see that extravert participants *only* used **confirmation check**, as a sub-type of interactional strategies, significantly more than introvert ones. As noted earlier, this can be explained on the ground that since extravert participants tend to talk more and they are good at interpreting body language and facial expressions (Taylor, 1998), they appeal to their experiences and are more able to use them to communicate the concepts than the introvert ones. As a result, they used more interactional strategies (i.e. **confirmation check**) than introvert participants in performing task two. Again, these findings would confirm the findings of researchers such as Bialystok (1990) and Kellerman & Bialystok (1997).

In doing task three, extravert participants used **comprehension check**, **confirmation check** and **transliteration** significantly more than introvert ones. It should be noted that "transliteration" is an IL-

based linguistic strategy and comprehension check and confirmation check are two sub-types of interactional strategies. As mentioned earlier, since task three, or narrative, needs more linguistic ability, conceptual knowledge, and somehow cultural information (Allen et al., 1994), it creates more meaningful and communicative situations for the speakers of L1 and L2 than other contexts (Ahmadian, 1995) and it motivates individuals to express their experiences (Lantolf, 2006; Stinson, 2008), thus, it may have been that it draws more on interactional strategies than other strategies, and consequently, extravert participants due to their higher interpersonal communication abilities or “positive interpersonal awareness” (Brislin & Yoshida, 1994:30-31), used more interactional strategies (**comprehension check** and **confirmation check**) than introvert participants in performing the given task. This finding is in line with those of researchers such as Bialystok (1990) and Dewaele et al., (1999), who noted a similar point in oral communication. Furthermore, the reason why the extravert participants used **transliteration** significantly more than introvert ones may be due to their psychological characteristic that because extravert learners prefer quicker, *less* accurate approach, and tend to talk more with *less* reflection (Taylor, 1998), they used more “transliteration” strategies than introvert ones to solve their communication problems.

One particularly interesting finding made in this study is that task variability involves the use of various strategies in the performance of the participants’ SC and that the ways in which SC is operated for planning and executing CSs differ from task to task. This finding supports Poulisse’s (1990) and Ahmadian’s (2001) findings that the nature of the task strongly influences the type of CSs adopted. In sum, within the domain of oral referential communication, the null hypothesis is, generally, rejected.

5. Conclusion and Implications

It has been claimed that the personality trait of EXT/INT is associated with the use of communication and CSs (Dewaele & Furnham, 1999; Littlemore, 2003). It was the aim of this study to examine such a claim. The findings would suggest some evidence for such a claim as discussed above.

The findings of this study can have pedagogical implications. It was discussed that a *more* practical approach to second /foreign language teaching is to develop the L2 learners' SC and their ability to use CSs in order to solve their communication problems (Widdowson, 1990; Kasper and Kellerman, 1997; Omaggio Hadley, 2003; Lantolf, 2006). Furthermore, if language teachers want to be successful and productive in helping L2 learners develop their SC, obviously, they should take personality trait of EXT/INT into consideration as one of the effective factors which influence the use of communication and CSs (McDonough, 1986; Ehrman et al., 2003; Littlemore, 2003).

According to the recent trends in second /foreign language teaching, there has been an increasing interest in "learner-based" approaches to second /foreign language teaching in which learners are seen to be the center of teaching activities (Auerbach, 1999; Ellis, 2003). Thus, teachers are no longer regarded as the (only) sources of knowledge and learners as the only receivers of knowledge; rather, teachers are considered as problem-imposers and learners as problem-solvers (Ellis, 1994, 2003; Shor, 1999; McKinney and Norton, 2008, pp. 200-201). It is believed that this will help learners develop their "interactional competence" (Richards and Lockhart, 2005, p. 141) in L2 classrooms to enable them to use their communicative and strategic competence for social interactions. To develop their SC, L2 learners are supposed to learn to use various strategies to solve the communicative problems imposed by the teachers and to achieve their intended goals.

There is a general consensus that SC of L2 learners is likely to be improved through genuine communication situations (Bialystok, 1990; Dornyei, 1995; Adams, 2007). Dornyei et al., (1997) also point out that the teachability of SC, both oral and written, in L2 learning is completely justifiable and possible, and it can be started early even at a pre-intermediate level. The findings can, thus, help teachers design appropriate communicative tasks in their classrooms to motivate their students' interactions, and thereby help them develop their strategic competence.

Specifically, the findings of this study revealed that extravert learners tend to use more "interactional" strategies and introvert learners tend to use more "conceptual strategies" to solve their

communication problems. Considering the characteristics of extravert and introvert learners and the findings of this study, textbook writers and EFL/ESL teachers can help develop the SC of each group of learners in a number of ways. For example, regarding the fact that extravert learners like group-work and introvert learners like to work independently or in smaller groups of two or three members, textbook writers may provide extra materials appropriate for each group in their textbooks by which teachers can provide more opportunities for introvert learners to use “interactional” strategies, and for extravert learners to use more “conceptual strategies” to solve their communication problems, and thereby to develop their overall communicative abilities in general, and their strategic competence in particular. Moreover, teachers can group students based on their personality traits, give them appropriate communicative tasks in actual classroom activities, and teach extravert and introvert learners how to use different strategies to achieve their communicative goals, and thereby to develop their speaking skills, and hopefully their writing skills as well. However, further research on psycholinguistic and sociolinguistic aspects of SC will hopefully provide researchers and language teachers with more information to help L2 learners develop their SC in both oral and written communication.

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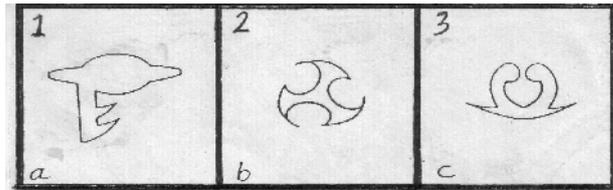
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Appendix

Communicative Tasks (1, 2 & 3)

1. An example of task one-Unconventional Shapes:



2. Task two-Abstract Concepts:

1. Jealous 5. Sympathy
2. Justice 6. Optimism
3. Flattery 7. Salvation
4. Pessimism 8. Beauty

3. Task three-Narrative:

There once was a man who was going to visit a distant cousin with his wife. While they were waiting on ----(1)----for their train, the man saw a ----(2)----. It was one of those apparatuses which give ----(3)---- on which one's future is printed as well as one's weight. The man decided to weigh himself so he stepped on ----(4)----, put ----(5)---- in, and waited for ----(6)---- to come out. Since he was not wearing his ----(7)----, he asked his wife ----(8)----it out to him. On ----(9)---- was written "You are a special man, you have great ----(10)----, willpower and ----(11)----. You are to have golden future". After she had read this out, the man's wife turned it over, looked at the back for a moment and sneer "Huh, and it's got your weight wrong too".

Story NO. 1

