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The Communicative Effectiveness of Different Types of Communication Strategy

1. Introduction

Communication strategies are the steps taken by language learners in order to enhance the effectiveness of their communication. There are two principal categories of communication strategy, 'compensation' strategies and the 'interactional' strategies. Compensation strategies are defined as the attempts that language learners make to compensate for gaps in their knowledge of the target language (see, for example Faerch and Kasper, 1983; Poulisse, 1990, 1993). Interactional strategies are used to manipulate the conversation and to negotiate shared meaning (see, for example, Bialystok, 1990; McNamara, 1995). Extensive taxonomies of both types of strategy have been produced, and language learners have been encouraged to employ the strategies within these taxonomies.

The focus in this article is on a group of compensation strategies. It follows up findings from a previous study (Littlemore, 2001), in which it was observed that people's cognitive styles help to determine their communication strategy preferences. When faced with gaps in their target language lexis, language learners with what Ehrman and Leaver (Ehrman, this issue; Ehrman, 2001; Ehrman and Leaver, forthcoming) call a synoptic cognitive style (called 'holistic'in Littlemore, 2001) were found to favour comparison-based strategies, whereas learners with an ectenic cognitive style (called 'analytic' in Littlemore, 2001) were found to focus on the individual features of the target item[i]. In this article, a study is described which assessed the communicative effectiveness of each of these groups of strategies.

Only two studies have been carried out into the communicative effectiveness of different communication strategies. Ellis (1984) discovered that higher proficiency learners tend to employ more 'achievement' strategies, such as paraphrase and word coinage, and that lower proficiency learners tend to employ more 'reduction' strategies, such as word abandonment and word avoidance, and that the former are more effective. Chen (1990) observed that 'linguistically-based' strategies such as the use of synonyms, tend to be more effective in conveying information than conceptual strategies, such as saying what an item is used for, or referring to folk traditions that are associated with it (for example saying that 'it brings good luck' when referring to an owl). However, both of these studies both focused on broad groups of strategies, and did not give detailed information about the communicative effectiveness of individual strategies. Nor did they discuss the effectiveness of strategies that are preferred by learners with different cognitive styles.

The aim of the study described in this article is to assess the communicative effectiveness of a range of strategies, in particular those strategies that are preferred by ectenic and synoptic language learners. In order to do this, language learners were put in a situation where they were obliged to use communication strategies, and the communicative effectiveness of their output was assessed. Counts were then made of the different types of communication strategies used by each student, and these were correlated with three aspects of communicative effectiveness. These were measured by

asking two native speaker judges to rate the students' output in terms of ease of comprehension, stylishness of expression, and the level of proficiency it was deemed to reflect. Before describing the study, I discuss the concept of communicative effectiveness and outline the taxonomy on which the study was based.

2. Communicative effectiveness

The concept of communicative effectiveness is not at all straightforward, largely because the communication goals of a language user are likely to vary enormously from context to context. However, there are three aspects of communicative effectiveness, which can be said to broadly reflect common aims amongst most language learners. The first aspect is 'ease of comprehension'. For most language learners, most of the time, the main aim is to make themselves understood by their interlocutor. The second aspect concerns the stylishness of the language produced. As Cook (2000) points out, the communicative aims of language learners may not always be strictly instrumental. They may, at times, want to show off or play with the language in order to demonstrate or share creativity with their interlocutor. This playful use of language can serve an important relationship-building function. A third, much more instrumental goal, for many language learners is simply to pass an oral exam designed to measure their linguistic proficiency.

The judges in this study were therefore also asked to rate the students' output according to three criteria: ease of comprehension; stylishness; and the perceived proficiency of the student. These scores were then correlated with measures of strategy usage. The strategies were categorised using a more detailed version of a taxonomy originally proposed by Poulisse (1993).

3. Poulisse's (1993) taxonomy of communication strategies

As indicated in the introduction, the focus in this article is on a set of strategies that fall within the 'compensatory' approach. The advantage of this approach is that it allows researchers to put students in strictly defined, well-controlled situations in order to test hypotheses concerning their communication strategy behaviour. However, the approach is somewhat limited, as it does not provide information about the effects of variation in the context in which the interaction takes place, nor does it look at cases where there are not necessarily any linguistic difficulties (see Bachman, 1990). It is important to bear these limitations in mind when discussing the significance of the findings in this study.

Poulisse's (1993) taxonomy is one of the most well known among those addressing the compensatory approach. It is based on Levelt's (1989) psycholinguistic model of speech production, which draws a distinction between conceptual and linguistic levels of language production. The taxonomy results from a wide-ranging, empirical communication strategy research project, the so-called 'Nijmegen Project' (see Poulisse, 1990 for details). The taxonomy consists of three 'strategy families': 'substitution'; 'substitution plus'; and 'reconceptualisation'. *Substitution* strategies are used when the speaker replaces the intended lexical item with another one, either from the L1 or from the L2 (for example, the use of the L2 word 'animal' for 'rabbit', or the L1 word 'house' for the L2 word 'maison') This latter strategy is otherwise known as 'transfer'.

Substitution plus strategies involve the use of a substitution strategy, but with an added morphological or phonological development (for example, the creation of the verb 'ironize' on the basis of the noun 'iron'). The third type of strategies, *reconceptualisation* strategies, are defined by Poulisse as 'a change in the preverbal message involving more than a single chunk' (ibid.:181) (for example, 'it's green and you eat it with potatoes' for 'spinach'). These involve componential analysis (it's got a head, a body, and four legs) and/or the provision of information about what the item does, what it's for, where it can be found, and so on.

The study described below attempted to assess the communicative effectiveness of the above strategy families, as well as assessing the effectiveness of strategies that were found by Littlemore (2001) to be associated with synoptic and ectenic language learners. Littlemore found that synoptic learners tended to use those substitution strategies that are based on comparison (but not transfer), whereas ectenic learners tended to use reconceptualisation strategies, particularly those that are based on componential analysis[ii]. In order to identify and assess the effectiveness of a wide range of strategies, the taxonomy was further broken down into individual strategies (see Table 1, in section 4.1.5, for a list of the strategies). The communicative effectiveness of each of these individual strategies was then measured. The identification of these individual strategies was carried out based on the actual data produced by the students in the study. The final (detailed) taxonomy can be found in section 4 below. The communicative effectiveness of the strategies within this taxonomy is discussed in section 5.

4. The study

The participants in the study were 82 French speaking, upper-intermediate university-level learners of English, and the setting was a language-learning laboratory in their university. Each participant was given a booklet containing fifteen pictures of items, all of which were taken from nature. The reason why I chose items from nature was that I believed that they would elicit a fairly even balance between the different types of strategies. In other words, participants could say what it looks like, what it does, what it's for, and so on. Poulisse (1990), who used mostly pictures of household objects in her study, observed a significant bias towards 'function' strategies (saying what the item is for). Unfortunately, the use of items from nature may limit the applicability of the findings somewhat, as different strategies may be more effective for items taken from other fields.

The participants were asked to record in English what item they saw, either by naming it, or in any other way[iii]. They were instructed to do this in such a way that an English speaker, who would later listen to the recordings of the session, would be able to identify the objects. These instructions were given in written form, in French. Although this task is not very natural, its highly controlled nature means that it produces data that are easy to quantify and analyse. In section 6, I will discuss ways in which the findings might have been different, had the task been more natural. Further details concerning the experimental procedure can be found in Littlemore (2001) The items used were as follows:

mole (practice item)

park bench (practice item)
dragonfly
holly
peacock
walrus
swordfish
slug
dandelion clock
acorn
dungarees
radish
squid
ivy
seahorse
owl
top hat
butterfly (filler item)
toothbrush (filler item)
umbrella (filler item)

These items had been chosen on the basis of a pre-test, which was carried out to ensure that the names of the items would be unknown to the majority of the participants. In each experimental session no more than twelve participants were seated at alternate booths in a language laboratory designed for twenty-four students. Although the participants were given a time limit of thirty minutes for the task, most finished well within this time limit. They were asked not to leave their booths, or to speak, until everyone had completed the task. Transcripts were made of all the recordings and, based on these transcripts, a taxonomy of communication strategies was produced[iv]. For each student and for each object, the number of times each type of communication strategy was used was recorded. A table was prepared for each student showing the number of times each strategy was used for each target item. The transcriptions were then shown to two native-speaker judges[v], who were asked to rate each student on the three following scales:

Ease of comprehension:
How easy is it to work out what the student is talking about?

1. Very difficult
2. Quite difficult
3. Average
4. Quite easy
5. Very easy

Stylishness of expression:
How stylish do you feel this person's language to be?

1. Not at all stylish
2. Not very stylish
3. Average

4. Quite stylish
5. Very stylish

Proficiency:
How would you rate this person's level of English?

1. Beginner
2. Post-beginner
3. Intermediate
4. Upper-intermediate
5. Advanced

In cases where the judges disagreed (11%), the average of the two scores was used. Correlations were then calculated between these scores and the students' usage of the different communication strategies in the taxonomy. The taxonomy that was used is more detailed than that proposed by Poulisse, and is outlined below:

4.1 The taxonomy of communication strategies

Close examination of the transcripts of the recordings led to the identification of the following groups of strategies:

4.1.1 Substitution strategies
Six strategies were identified that could be classified as 'substitution'. These were as follows:

*Original analogical/metaphoric comparison**:*** The participant compares the target item to another object in an analogical way (employing the word 'like') or a metaphorical way (not employing the word 'like'), which is original and idiosyncratic. For example 'it's like chewing gum' (a slug) or 'this could be described as a pipe for smoking' (an acorn).
Conventional analogical/metaphoric comparison: The participant compares the target item to another object but in a metaphorical way, which is conventional either in the L1 or the target language. The comparison is deemed to be metaphorical, rather than literal, as the two components are not from the same semantic field. For example 'it's a kind of ball' (radish).
Literal comparison: The participant compares the target item to another object in a non-metaphorical way (i.e. the two components are from the same semantic field). For example 'it's like a snail but without a shell' (slug).
Super-ordinate: The participant gives the name of the family to which the target item belongs. For example 'it is a kind of fish' (swordfish).
Word transfer with L2 word approximation: The participant uses an English word that resembles the French one. For example 'it's a lullaby' (French for dragonfly = libellule).
Simple word transfer: The participant uses a French word without attempting to anglicize it. For example 'it's a calamar' (French for squid = calamar).

The first four of these substitution strategies: original metaphoric comparison; conventional metaphoric comparison; literal comparison; and the use of super-ordinates

have been found to be favoured by synoptic learners (Littlemore, 2001)[vi]. Therefore, in this study, we were particularly interested in assessing their communicative effectiveness.

The decision to include the concept of 'metaphoric comparison' in the taxonomy arose from the fact that many of the strategies used by the participants were metaphorical in nature. For example, one participant, who did not know the word 'sea horse', was able to say that 'it's a little animal that lives in the sea and has the head of a punk'. In this expression, the source domain 'punk hairstyle' is being used to describe a disparate target domain: 'a seahorse's crest'. The disparity between the source and target domains meant that the expressions could be described as metaphorical. These strategies could also be described as metaphorical extension strategies as they involve extending the meaning of known vocabulary to talk about topics for which one does not know the words. The use of such creative, metaphorically-based communication strategies has already been documented (Cameron and Low, 1998). It was predicted that the use of conventional metaphoric comparison would contribute to ease of comprehension and perceived proficiency, whereas the use of novel metaphoric comparison would contribute to perceived stylishness.

Obviously, not all the comparisons made were metaphorical. Some of the comparisons involved non-disparate domains, for example when a slug was compared with a snail. Such comparisons were termed 'literal comparisons'. A further substitution strategy involved the use of a super-ordinate term, for example when a participant said of a walrus that it was 'a kind of animal'. It was predicted that the use of literal comparisons and super-ordinates would contribute to ease of comprehension and perceived proficiency, but perhaps not stylishness of expression.

Poulisse's substitution category also contains a type of strategy that was not found to be favoured by synoptic language learners, namely 'transfer'. In this study, two different types of transfer strategy were identified. In the first type, the participant used an English word that sounded similar to the French word for the item. In the second type, the participant simply used the French word, without trying to anglicize it. It was thought that the first of these strategies might lead to confusion, causing the participant to score poorly on the ease of comprehension index. On the other hand, it may make them sound more fluent (if less comprehensible), causing them to score more highly on the stylishness and proficiency indexes. It was predicted that the strategy of simply using an L1 word might be negatively related to all three measures of communicative effectiveness.

4.1.2 Substitution plus strategies

Only one strategy was identified that could be described as 'substitution plus'. This was morphological creativity:

Morphological creativity A participant using this strategy makes up an English word that is similar to the target item. For example 'it's a hollywood' (holly).

It was predicted that the use of this strategy might contribute to stylishness and proficiency ratings, but not to ease of comprehension.

4.1.3 Reconceptualisation strategies

Five strategies were identified, which could be described as reconceptualisation strategies. These were:

Componential analysis: The participant describes the individual features of the target item. For example 'it has a red part at the top and a white part at the bottom' (radish).
Function: The participant states what the target item can be used for. For example 'this is something that you can eat' (squid).
Activity: The participant describes something that the target item does. For example 'it moves very slowly' (snail).
Place: The participant says where the target item can be found. For example 'this is often found on the side of a house' (ivy).
Emotion: The participant mentions an emotion which is often inspired by the target item. For example 'it makes people frightened' (owl).

These strategies (particularly componential analysis) have been found to be favoured by ectenic learners (Littlemore, 2001). We were therefore particularly interested in assessing their communicative effectiveness. It was predicted that all five strategies would contribute to ease of comprehension and perceived proficiency and, to a lesser extent, stylishness of expression. It was also predicted that the emotion category would be less effective than the others as it is a rather subjective category, and this subjectivity may not transfer easily from person to person, or across cultures. There may also be cross-cultural differences concerning the typical functions, activities and places associated with the items. For example, French people may be more likely to eat squid than English people. It was therefore felt that it would be worthwhile investigating which of the strategies would prove to be most robust when exposed to cross-cultural substantiation.

4.1.4 Functional reduction strategies
Research has shown that the use of functional reduction strategies (i.e. avoiding or abandoning the task altogether) is negatively related to effective communication (Marrie and Netten 1991). Although they are not addressed explicitly in Poulisse's taxonomy, I felt that it would be interesting to know whether, from an listener's (or, in this case, reader's) perspective, it is better for a student to at least begin to attempt to describe an item, or whether it is better for them to give up before even trying. The study therefore sought to establish which of the two was perceived to be less communicatively effective: word abandonment, or word avoidance.

Word abandonment A participant gets half way through a description, and then gives up. For example 'It has big eyes and brown er, er, so… number 6' (owl).

Word avoidance A participant does not even attempt to describe the item. For example 'I don't know what this is in English' (dragonfly).

I predicted that both of these strategies would be negatively related to all three measures of communicative effectiveness, as they tend to be more characteristic of low proficiency learners (Eliis, 1984). I also predicted that word abandonment would be slightly better perceived than word avoidance.

4.1.5

In order to sum up, the classification of the strategies into three groups is outlined in Table 1 below.

Table 1 near here.

Having described the strategies used, we are now in a position to discuss their communicative effectiveness.

5. Results

In order to assess the communicative effectiveness of the strategies, correlations were calculated between the scores given by the judges and the numbers of different strategies used by the students. The results of these correlations are given in Table 2 below:

Table 2 near here.

In general, strategies that are favoured by ectenic learners were found to be more communicatively effective than strategies that are favoured by synoptic learners. One reason for this might be that synoptic strategies are less direct and more idiosyncratic than ectenic strategies, which assume less shared knowledge. Of all Poulisse's categories, reconceptualisation was found to be to be the most communicatively effective, followed by substitution, substitution plus, then functional reduction. As we might expect, functional reduction strategies correlated negatively with all three measures of communicative effectiveness. Now let us assess the communicative effectiveness of the individual strategies within each of these categories.

Within the category of substitution, the only strategies to contribute to communicative effectiveness were conventional analogical/metaphoric comparison and literal comparison. The use of these strategies thus made the language used by the student both clearer and more stylish. Use of these strategies also contributed to the perceived proficiency of the student. The use of novel analogical/metaphoric comparisons, and super-ordinates did not appear to contribute to communicative effectiveness. Furthermore, neither of the transfer strategies contributed to any aspect of communicative effectiveness. In fact, attempts at L2 word approximation appeared to have a particularly detrimental effect on the perceived stylishness of the speakers' language, and simple word transfer was negatively related to all three measures of communicative effectiveness.

Only one strategy was identified within the substitution plus category, and this was morphological creativity. The only aspect of communicative effectiveness that this strategy was related to was perceived proficiency. In other words, the strategy did not make the language sound clear or stylish, but paradoxically it did make the speaker come across as being more proficient. No distinction was drawn in this study between more or less lawful neologisms and those that, to a native speaker, are likely to sound completely made up. This would be an interesting subject for further research.

All of the strategies in the reconceptualization category were significantly related to all three measures of communicative effectiveness. Of these strategies, componential analysis appears to have been the most effective.

Within the category of reduction strategies, word avoidance seems to have been slightly worse as it correlated significantly and negatively with both ease of comprehension and perceived proficiency. The only significant negative correlation for word abandonment was with stylishness of expression. These findings are discussed below.

6. Discussion

The findings from this small, exploratory study suggest that the strategies favoured by ectenic learners are more communicatively effective than those favoured by synoptic learners. In other words, reconceptualisation strategies are likely to be the most effective, and within this category, componential analysis is the most likely to guarantee successful communication. Other effective strategies include literal, or conventional analogical/metaphoric comparison. Less effective strategies include novel analogical/metaphoric comparison, the use of super-ordinates, transfer, morphological creativity, word abandonment, and word avoidance. Let us now discus the communicative effectiveness of the strategies within each of these categories.

The finding that reconceptualisation was the most effective category of strategies suggests that, when faced with a gap in one's target language lexis, it is better to provide information about what the target item does and what it is for, rather than describing things that it resembles. It is interesting to note that these were the strategies that were favoured by ectenic learners (Littlemore, 2001). What is even more striking is the fact that componential analysis, which was the strategy most strongly favoured by ectenic learners, had the strongest overall correlation with the three measures of communicative effectiveness. This implies that ectenic learners are likely to have an advantage over synoptic learners when put in a situation where they have to use communication strategies to compensate for gaps in their knowledge of the target language. This is particularly likely to be the case if the context is not sufficiently shared by both interlocutors for less direct or figurative devices to be understood.

The reason why componential analysis appears to have been the most successful reconceptualization strategy is likely to be due to the fact that it leaves little room for misunderstanding: cross-cultural differences are likely to be minimal when describing the physical components of items. For example, a slug is always a sticky, featureless, dull-coloured creature, regardless of the culture of the person describing it (although there may be differences between different varieties of slug in different countries). There is likely to be less common ground between cultures' perceptions of an item's functions, its typical activities, the places in which it can be found, and the emotions that it generally provokes.

These strategies are likely to be most effective in cases where the cultural models of the native language and the target language converge or where they require the least amount of specific shared context. A cultural model refers to the particular set of associations that a culture has for a given word or concept (Ungerer and Schmid, 1996:50). For example, part of the cultural model of a Dandelion clock, for a British

person, would probably be that children use it to pretend to tell the time. This may or may not be part of a French person's model. Another important prerequisite is that a speaker accurately identifies whether a naïve or an expert model is expected (Ungerer and Schmid, 1996:52). Aspects of a naïve model for the word 'acorn' might include the idea that it is used as a pipe by elves, whereas aspects of a more expert model would include the fact that it consists of a cap and an ovary, and that it contains a large amount of tannin. To sum up, of all the strategies within this category, componential analysis seems to be the most communicatively effective, but providing information about what it's for, where it lives and so on is also useful, as long as the speaker bears in mind possible differences between theirs and their interlocutors' cultural or personal models.

Now let us turn to the second most successful category: the substitution category. Of the four strategies in this category that are favoured by holistic students, only non-conventional analogical/metaphoric comparison and literal comparison were found to correlate significantly with measures of communicative effectiveness. The reason why novel analogical/metaphoric comparisons are not useful is likely to be that they are largely idiosyncratic, and cannot be easily understood by an interlocutor. Furthermore, when they are used by a non-native speaker they may be interpreted as incorrect, rather than as creative uses of the target language. As for super-ordinates, although useful, they may not provide enough precise information about the target information. Alternatively, they may be so banal that they were simply not noticed by the judges in this study. The finding that none of the transfer strategies contributed to any aspect of communicative effectiveness suggests that language learners should take care when using transfer strategies, even when their native language is reasonably close to the target language, as is the case for French and English.

The third most successful category was substitution plus. This category contained only one strategy: morphological creativity. The fact that this strategy was significantly related only to perceived proficiency, and not to any of the other measures suggests that it is not a very useful strategy, and may serve best in examinations!

Functional reduction strategies were the least successful category. The findings in this study appear to suggest that the use of word avoidance appears to make people difficult to understand and it gives the impression that they are low level speakers, whereas word abandonment simply makes a speaker sound unstylish. On balance, it is probably better to use word abandonment than word avoidance. In other words, it appears to be better to have a go and give up than not to try at all. On the other hand, in real conversation, the communicative effectiveness of message avoidance strategies versus message abandonment strategies probably varies according to circumstances, and it is for students themselves to judge whether or not it is worth attempting to say something, as only they are aware of the extent of the limitations in their target language knowledge.

In summary, we can say that, in general, the strategies that are favoured by ectenic learners appear to be more communicatively effective than those that are favoured by holistic (or 'synoptic') learners. Within each of these categories, some strategies are more effective than others. As for the strategies that are favoured by ectenic learners, componential analysis appears to be the most effective, closely followed by descriptions of what the target item is for, what it does, and where it can be found. Descriptions of the emotions that it inspires tend to be slightly less effective. As for the strategies that are favoured by synoptic learners, conventional analogical/metaphoric comparison and literal

comparison are particularly communicatively effective, whereas original analogical/metaphoric comparison and the use of super-ordinates are less so.

There is an important caveat to be made at this point: the finding that the strategies favoured by ectenic learners were found to be more communicatively effective than those favoured by synoptic learners may not be universal. The judges in the study were both English and as a result may well have been brought up to value relatively direct approaches to learning and communication. Oxford and Anderson (1995) have shown that people from other cultures, such as Hispanics, Native Americans and Afro-Americans are less likely to value these approaches, and are more likely to engage in contextually-dependent communication involving intuition, approximation, and body When this is the case, the use of communication strategies that are more characteristic of synoptic learners may be more appropriate.

There are other limitations to this study, and its findings cannot be generalized to all language learners in all situations. Firstly, the items chosen were all taken from nature, and different strategies may be more effective for items from other fields. For example, for more functional objects, it is probably more useful to say what they do than to describe in detail what they look like. Abstract concepts are often defined through metaphor (Lakoff and Johnson, 1980), and might therefore be conveyed more effectively through the use of both novel and conventional analogical/metaphoric comparison strategies. For languages that are more lexically similar (for example Dutch and English), the strategy of transfer may prove more effective. For languages that rely heavily on compound words, the use of morphological creativity may prove useful.

Another limitation of this study is that it focused only on compensatory strategies. It would be useful to know about the communicative effectiveness of more interactive strategies such as back channelling, subject manipulation and the use of gesture. For such a study, it would probably be more appropriate to use an ethnographic, qualitative approach, which would allow for unpredictable responses and topic changes on the part of both the language learner and the interlocutor. A more natural study such as this would complement and add further depth to the findings outlined above. One would probably find that the relationships between the type of strategy used and the communicative effectiveness of the message would be less clear-cut as other types of personality variables, as well as contextual variables would be likely to intervene. On the other hand, it is to be hoped that this study has provided a useful preliminary investigation into the relative effectiveness of a range of communication strategies.

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Substitution strategies	• Original analogical/metaphoric comparison • Conventional analogical/metaphoric comparison • Literal comparison • Super-ordinate • Word transfer with L2 word approximation • Simple word transfer
Substitution plus strategies	• Morphological creativity
Reconceptualisation strategies	• Componential analysis • Function • Activity • Place • Emotion
Functional reduction strategies	• Word abandonment • Word avoidance

Table 1: Taxonomy of communication strategies used

		Ease of comprehension	**Stylishness of expression**	**Perceived proficiency**
Strategies favoured by holistic learners (original analogical/metaphoric comparison, conventional analogical/metaphoric comparison, literal comparison and super-ordinates)	Pearson Correlation Sig. (2-tailed) N	.538** .000 82	.412** .000 82	.382** .000 82
Strategies favoured by analytic learners (all reconceptualisation strategies)	Pearson Correlation Sig. (2-tailed) N	0.607** .000 82	0.537** .000 82	0.434** .000 82
Substitution strategies	**Pearson Correlation** **Sig. (2-tailed)** **N**	**.487**** **.000** **82**	**.374**** **.001** **82**	**.305**** **.005** **82**
Original analogical/metaphoric	Pearson Correlation	.172	.109	.173

comparison	Sig. (2-tailed)	.122	.329	.121
	N	82	82	82
Conventional analogical/metaphoric comparison	Pearson Correlation	.482**	.434**	.277*
	Sig. (2-tailed)	.000	.000	.012
	N	82	82	82
Literal comparison	Pearson Correlation	.422**	.334**	.325**
	Sig. (2-tailed)	.000	.002	.003
	N	82	82	82
Super-ordinate	Pearson Correlation	.205	.112	.146
	Sig. (2-tailed)	.064	.316	.190
	N	82	82	82
Word transfer with L2 word approximation	Pearson Correlation	.094	-.005	.062
	Sig. (2-tailed)	.4	.967	.581
	N	82	82	82
Simple word transfer	Pearson Correlation	-.003	-.046	-.039
	Sig. (2-tailed)	.98	.679	.73
	N	82	82	82
Substitution plus strategies	**Pearson Correlation**	**0.169**	**0.178**	**0.262***
	Sig. (2-tailed)	**.089**	**.11**	**.018**
	N	**82**	**82**	**82**
Morphological creativity	Pearson Correlation	.169	.178	.262*
	Sig. (2-tailed)	.089	.11	.018
	N	82	82	82
Reconceptualisation strategies	**Pearson Correlation**	**0.607****	**0.537****	**0.434****
	Sig. (2-tailed)	**.000**	**.000**	**.000**
	N	**82**	**82**	**82**
Componential analysis	Pearson Correlation	.518**	.453**	.391**
	Sig. (2-tailed)	.000	.000	.000
	N	82	82	82
Function	Pearson Correlation	.514**	.466**	.297**
	Sig. (2-tailed)	.000	.000	.007
	N	82	82	82
Activity	Pearson Correlation	.44**	.389**	.29**

	Sig. (2-tailed)	.000	.000	.008
	N	82	82	82
Place	Pearson Correlation	.328**	.299**	.26*
	Sig. (2-tailed)	.003	.006	.018
	N	82	82	82
Emotion	Pearson Correlation	.277*	.279*	.245*
	Sig. (2-tailed)	.012	.011	.027
	N	82	82	82
Functional reduction strategies	**Pearson Correlation**	**-.304****	**-.271***	**-.277***
	Sig. (2-tailed)	**.006**	**.014**	**.012**
	N	**82**	**82**	**82**
Word abandonment	Pearson Correlation	-.190	-.251*	-.199
	Sig. (2-tailed)	.088	.023	.073
	N	82	82	82
Word avoidance	Pearson Correlation	-.263*	-.2	-.229*
	Sig. (2-tailed)	.017	.071	.039
	N	82	82	82

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Table 2: Correlations between numbers of strategies used and measures of communicative effectiveness.

Notes

[i] Ehrman and Leaver posit ten bipolar subscales which are pulled together by a superordinate construct, synopsis-ectasis. The ten subscales are random-sequential, global-particular, leveling-sharpening, synthetic-analytic, concrete (experiential)-abstract (theoretical), inductive-deductive, impulsive-reflective, analogue-digital, field independence-dependence, and field sensitivity –insensitivity.. These subscales are used to create a specific and fairly detailed profile of each learner, and the more general terms 'synoptic'-'ectenic' are used as a general shortcut for all the subscales. In general, Ehrman and Leaver indicate that ectasis seeks to maintain conscious control of processes that synopsis entrusts to the preconscious or even the unconscious (Ehrman, this issue; Ehrman, 2001, Ehrman & Leaver, forthcoming).

[ii] Littlemore's (2001) study was based on Poulisse's slightly older taxonomy (Poulisse, 1990). The categories within the taxonomy were therefore subdivided into separate strategies to allow direct comparison.

[iii] The booklet also contained two practice items and three filler items, the names of

which would almost certainly be known by the participants. These filler items were added so that the participants would not become too discouraged by the task.

[iv] After discussing the scoring criteria in some depth on the basis of the transcripts, the scorers worked jointly on five of the 82 transcripts in order to develop consistency in the way that the communication strategies were labeled. They then worked independently on the remaining 77 transcripts. The scores were compared and any discrepancies were discussed and resolved by mutual agreement. The small number of discrepancies that could not be resolved by mutual agreement (less than 1% of the total number of communication strategies used) were excluded from the analysis. The items were then added together in order to obtain a record of the total number of times each student had used each strategy. The categorization into Poulisse's (1993) categories was carried out by the author.

[v] An initial intention was to have the judges listen to the transcripts of the students, rather than reading them. However, it proved too difficult for them to hold all the relevant information in their heads for all fifteen items. They were much more confident in their ability to give overall ratings when they could see the actual transcripts. Another initial intention was to ask the judges to allocate three communicative effectiveness scores for each item, for each student. However, for many of the items, the answers were too short to be scored reliably.

[vi] In this study, the categories of 'related word' and 'negative comparison' (see Littlemore, 2001) were combined to form a single category entitled 'literal comparison'.