

On the Applicability of Oxford's Taxonomy of Learner Strategies to Translation Tasks

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During the last three decades, especially 1980's, language learning specialists have been busy discovering the nature of language learning strategies, describing them, and formulating their relationships with other language learning factors. In line with these studies, the field of translation studies has undergone a complete revolution in terms of its perspective toward its research priorities; that is, recent works tend to adopt a more descriptive rather than prescriptive approach. One of the newly emerged trends in translation studies is the quest for the nature of mental processes applied while translating a text. Following this trend, the present study incorporates think-aloud protocols (TAPs) and retrospective interviews to probe the learning strategies employed by some university students during the translation of an expository text from English to Persian according to the taxonomy of learning strategies presented by Oxford (1990). The results show that (1) the participants tend to incorporate cognitive and meta-cognitive strategies as their dominant strategies, (2) there is no significant difference between direct and indirect strategies incorporated by the participants, and (3) the scope of the taxonomy proposed in the field of language teaching can be generalized to translation studies.

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The seminal studies during 1970's and 1980's led to relatively comprehensive accounts of learning strategies in the field of language teaching, the most outstanding of which are the classifications presented by O'Malley and Chamot (1989) and Oxford (1990). However, during the recent years, learning strategies have been studied in the light of other learner's variables such as proficiency, gender, and personality factors (Brown, 2007).

In line with this growing trend in the field of language teaching, translation studies have undergone a considerable shift of interest in recent years. That is, recent research reports have shown a strong tendency away from prescriptive and rather anecdotal attitudes toward more descriptive and scientific positions. One of the consequences of this shift of interest has been an increase in the empirical research into the translation process (Li, 2004). This was driven by the belief that what goes on in the translator's head (vs. what scholars had claimed might go on) while he or she is translating is, at least, crucial to the understanding of translation. This perspective has been considered to be as significant as comparative analysis of the final product; that is, the translated text in relation to the source text (Gopferish, 2010).

Learning Strategies

The concept of learning strategies may be simply defined as the techniques used by the second language learner for remembering and organizing samples of the target language. Some researchers, such as Oxford (1990) and O'Malley and Chamot (1989) claim that learning strategies contribute to foreign language development. According to Ellis (1994), learning strategies, in principle, should be distinguished from other kinds of strategies; namely, communication strategies. Communication strategies are techniques for maintaining or repairing a dialog with an interlocutor when it is in danger of break-down (Brown, 2007).

O'Malley and Chamot (1990) have divided learning strategies into meta-cognitive and cognitive strategies, corresponding to mental states but not distinguishing conscious and unconscious, and social/affective strategies, corresponding to learner's behavior. Oxford (1990) distinguishes direct strategies, which engage with the L2 directly) and indirect strategies, where the learner seeks out situations which will enable him or her to engage with the L2 directly. While these different subdivisions clearly attempt to refine our understanding of the nature of learning strategies, there exist several problems, which have led to the development of arguments. These arguments may be summarized as follows:

Many of the strategies proposed in the related literature require considerable "interpretation"; that is, they are not fully explicit (Ellis, 1994). A specific strategy like "attention to form" may be ambiguous in terms of its interpretation. Good language learners are supposedly those who attend to form. But how much attention do they give? Is attention conscious or not? Do levels of attention vary across individuals and across tasks in the same individual? Factors like these are just not explicit in the label applied to the strategy.

There seem to be no constraints on the potential for proposing new strategies. The strategy taxonomies which have been proposed often classify the same strategy under different categories (Ellis, 1994). For example, what Seliger (1984) calls a tactic is referred to as a social/affective strategy by O'Malley and Chamot (1989) and an indirect strategy by Oxford (1990).

Protocol Analysis in Translation Studies

Protocol analysis is a rigorous methodology for eliciting verbal reports of thought sequences as a valid source of data on thinking. The theoretical and methodological controversies about verbal reports have never cast doubt on people's ability to recall part of their thought sequences. The controversies have centered on efforts to go beyond the sequence of thoughts, to analyze their detailed structure through introspection, and to infer the processes

controlling the generation of new thoughts. In fact, all major theoretical frameworks related to thinking have advocated the use of verbally reported sequences of thoughts (Ericsson and Crutcher, 1991).

The central assumption of protocol analysis is that it is possible to instruct subjects to verbalize their thoughts in a manner that does not alter the sequence of thoughts mediating the completion of a task. The data collected in this way can serve as valid data on thinking (Ericsson and Simon, 1993). When adults are able to perform tasks while thinking aloud, without sacrificing accuracy and speed, the verbalized information would almost have to reflect some aspect of the regular cognitive processes. By analyzing the information expressed as verbalized thoughts, it is possible to assess the validity of the verbalized information. In Protocol Analysis the verbalized thoughts are compared with intermediate results generated by different strategies that are specified in a task analysis (Ericsson and Simon, 1993).

Even when a person thinks aloud with its close connection between thoughts and reports, correspondence between verbalized thoughts and intermediate products predicted from the task analysis is not perfect. The lack of one-to-one correspondence is due primarily to the fact that not all thoughts which pass through attention are verbalized and some processing steps (thoughts) may be short-circuited with acquired skill. However, there is persuasive evidence of validity for the thoughts that are verbalized (Ericsson and Simon, 1993). More generally, According to Austin and Delaney (1998), verbal reports are only one indicator of the thought processes that occur during problem solving. Other indicators include reaction times, error rates, patterns of brain activation, and sequences of eye fixations. Given that each kind of empirical indicator can be separately recorded and analyzed, it is possible to compare the results of such independent data analyses. In their review, Ericsson and Simon (1993) found that longer reaction times were associated with verbal reports of a larger number of intermediate thoughts than those corresponding to shorter reaction times. Furthermore, there seemed to be close correspondence between subjects' thoughts and what they looked

at -- when subjects verbalized thoughts about objects in the environment, they very frequently looked at them (Ericson and Lehman, 1996).

Based on the above-mentioned characteristics about think aloud protocols, several researchers have incorporated it in translation studies in order to investigate the translation processes. The core idea behind all these studies is that translation is viewed as a problem-solving process. Hence, the researcher attempts to explore how the "problems" blocking translators are solved; that is, what translation strategies are applied (Pavlovic, 2009).

Studies on Translation Strategies

As stated before, there are some similarities among the studies dealing with translation strategies. One of them is that most of the studies are conducted with either foreign language learners or translator trainees. This tendency arises from three reasons: first, the availability of subjects; second, the pedagogic concerns of the experiments; and third, one of the assumptions of the model of think-aloud protocol analysis which highlights the contribution of non-automated mental process to much more informative analysis of protocol.

Loscher (1986; 1996) reported on a large think aloud protocol study conducted with 48 German learners of English as a foreign language. 52 translations either into English or into German were collected from the participants. They were asked to produce a spoken translation of a text while thinking aloud and were not permitted to use dictionaries. Putting dictionaries aside ensured a larger number of problem solving processes which were expected to be reflected in the protocols. According to Loscher's (1996) discussion, each strategy includes a sequence of core elements which can be combined in different ways, and a translation task includes a series of strategies which can also be combined in different ways. Furthermore, Loscher's study concluded that in case researchers analyze and interpret the protocols in a systematic and controlled way, think-aloud protocols could provide reliable data.

It seems that Loscher's (1996) failure to offer a classification of translation-specific strategies resulted from lack of concentration on the single direction of translation – either into English or into German – and incorporating multiple source texts. Moreover, the fact that the learners were not allowed to use dictionaries may be considered as a threat to the validity of the study because a crucial set of strategies which were involving the use of reference material remained unaccounted for.

Gerloff's (1986) study provided a surprisingly complicated classification of translation strategies based on a protocol analysis. In his study, translation strategies are considered to correspond with text processing strategies, which were defined as "any metalinguistic or metacognitive comments made or specific problem solving behaviors affected during the decoding and rendering of the translation text" (Gerloff, 1986: 252). The categories she proposed are problem identification, linguistic analysis, storage and retrieval, general search and selection, text inference and reasoning, text contextualization, and task monitoring.

It is worth mentioning that Gerloff's (1986) study adopted, to some extent misleadingly, a very broad notion of strategy in which both translation and text processing strategies are conflated. Furthermore, it seems that the proposed classification can not encompass the various strategies used by novice translators.

Mondhal and Jensen (1996) conducted a study which was narrower in scope than the other studies described so far. Having studied the use of lexical search strategies, they proposed a more straightforward taxonomy, which is shown below:

1. Production strategies
 - a. Achievement strategies: characterized by an attempt to remain as close as possible to the source text
 - i. Spontaneous association
 - ii. Reformulation
 - b. Reduction strategies: characterized by their inherently remedial nature
 - i. Avoidance
 - ii. Unmarked rendering of marked items

2. Evaluation strategies: reflection on the adequacy and acceptability of translation equivalents

Although Mondhal and Jensen's (1996) study offers a more operational taxonomy than that of Gerloff's (1986), one should bear in mind that the classification is originally based on the analysis of the protocols which were related to the use of lexical search strategies rather than translating a text either from or into a particular language. Moreover, in comparison with Gerloff's classification, it seems to be more simplistic.

As it was mentioned above, most strategy-probing studies were based on observing foreign language learners translating a text; however, a number of researchers focused on professional translators. Seguinot (1996) reported the results of a protocol analysis study which was conducted on two professional translators working together at the same task. The underlying assumption in this study was that this everyday setting would increase the external validity of the experiment, without limiting the internal validity of the results obtained. It is noteworthy that these two professional translators were used to working as a team. As a result of this study, four types of translation strategies were identified:

1. Interpersonal strategies: brainstorming, correction, phatic function
2. Search strategies: dictionaries, world knowledge, words
3. Inference strategies: rereading source and target texts, consulting
4. Monitoring strategies: rereading source and target texts, consulting and comparing units

Though Seguinot's (1996) study offers a more comprehensive classification than that of Mondhal and Jensen's (1996), it seems that the taxonomy is not comprehensive enough to provide a basis for a pedagogically oriented study. That is, as mentioned in the previous section, overlearning, as it is true for professional translators, makes some translation strategies inaccessible through protocol analysis. Thus, novice translators may incorporate a strategy which may not be compatible with the classification originally proposed by (researcher?) (date ?).

In the experiment reported by Krings (1986), another classification was introduced based on the protocols of eight German learners of French as a foreign language who translated a text either into or from their mother tongue. Krings (1986) believed that subjects resort to translation strategies when automatic processing breaks down. The contribution of Krings' study is twofold: first, it offers a list of problem indicators (which are incorporated in the current study and will be introduced in the sections below); second, it presents a classification of translation strategies based on protocols analysis as follows:

1. Comprehension strategies: inference and use of reference works
2. Equivalent retrieval strategies: especially interlingual and intralingual associations
3. Equivalent monitoring strategies: comparing source text and target text
4. Decision making strategies: choosing between two equivalent solutions
5. Reduction strategies: unmarked rendering of marked or metaphorical text portions

Krings' (1986) study along with other aforementioned experiments provide a handful of useful classifications of translation strategies that can be regarded as a basis for the present study. Since none of the classifications presented so far are comprehensive enough to be used as a framework for pedagogical contexts (i.e. either exploring the spectrum of translations strategies used by a group of translation trainees or comparing different groups of translators in terms of using different types of strategies), the researchers of the present study have attempted to conduct protocol analyses to identify the students' translation strategies and to propose a more operational classification.

Bernardini (2001), incorporated think-aloud protocol analysis to explore the translation strategies used by four professional translators. In comparison with the previous studies, Bernardini's study moves one step further by reflecting a tendency toward quantification of the observation; that is, in addition to providing a classification of translation strategies, the study

attempts to compare and contrast the participants' incorporation of translation strategies. However, this working paper is limited to descriptive statistical analysis and essentially reflects the researcher's attempt to devise a methodological framework.

It is worth mentioning that recent studies on translation have been concerned with limited number of strategies, failing to offer new taxonomies of translation strategies. For instance, Ehrensberger-Dow and Perrin (2009) probed the differences between novice and expert translators in terms of the incorporation of electronic and non-electronic sources. They concluded that the observed differences between these two groups could be described according to their metalinguistic awareness. Ronowicz and Imanishi (2003) observed the differences between novice and professional translators/interpreters in terms of their task management and lexical search mechanisms in order to identify the strategies that might be responsible for higher speed and quality of target text output by professionals. Despite following the trends of the above-mentioned studies, the recent body of research seems to be narrower in scope.

Research Questions

This study aims at bridging two fields of inquiry – learning strategies and translation strategies – so that the results could be directly applied to translation classrooms. Such an interdisciplinary study is a new field of investigation in the context of addressing Iranian students' translation strategies.

Iranian graduate students majoring in translation studies may be regarded as foreign language learners, and technically, their target language (English) proficiency can be described according to the factors presented in the inter-language hypothesis. It is obvious that these foreign language learners' English proficiency is not comparable with that of native English speakers, so they have to compensate for this shortcoming during a translation task by relying on their own repertoire of learning strategies. The purpose of this study is to discover some of the learning strategies used by Iranian students majoring in translation studies during the

translation of English expository texts into Farsi. The researcher attempts to come up with rational well-documented answers to the following questions:

1. To what extent can the taxonomy presented by Oxford (1990) be applied to translation activities? That is, does it seem necessary to propose a specific taxonomy of strategies for such activities?
2. Based on the Oxford's (1990) taxonomy of learning strategies, which strategies are used by students majoring in translation studies? And is there a difference between the use of direct strategies and indirect ones?

Method

Data Collection and Participants

The data used to evaluate the students' learning strategies for this study was collected while observing 12 senior students of translation studies. Based on their bio-data and their academic background, the experience of these students was to a great extent similar. The participants formed a homogeneous group which may be beneficial in terms of the purposes of the study since all of them would be in similar positions regarding the strengths and weaknesses of each observational approach utilized in this study.

The source texts were chosen by the researchers from academic textbooks of various fields of natural sciences, since the purpose of the study was to focus on the students' uses of learning strategies while translating an expository text. Four texts were randomly selected for the preparation sessions, and the fifth one was assigned to the final session – the "recording session". The selected texts were similar in average difficulty in terms of their readability index based on Flesch Reading Ease index.

The translation task was carried out in an isolated environment in order to avoid any distraction. However, the students were provided with different paper dictionaries – Oxford

Advanced Learner's Dictionary, Hezare English-Persian Dictionary, computer-based dictionaries, Longman Exams Coach Dictionary, and Narcis Dictionary v.5.1. They were free to use their mobile phone dictionaries if they felt it was needed.

The data collection was a three step process: (1) informing and preparing the subjects, (2) the actual translation process combined with think-aloud and audio recording, and (3) retrospective interviews with and without audio playback of the translation process. During the preparatory sessions, the same procedure was followed, except for a pre-translation discussion for each session during which the participants were introduced to the study and the methods of observation and were encouraged to ask questions.

Procedure

All the translators were asked to verbalize whatever came to their mind and to speak freely during the translation process. The researcher emphasized the need to feel comfortable and work as if they were at home. Once the participants were ready to begin, the researcher acted as a strict observer, trying not to make any contact with them. However, in the first two preparatory sessions, the researchers had to stop the participants to explain some problematic issues to them or to remind them of their vague verbalization. After the translation was complete, two retrospective interviews were conducted. The first interview included general questions on how the translator felt about the translation and the methods of observation. The second interview included a playback of the audio recording allowing the translator to listen to the entire process and make further comments.

Analysis

The audio files were transcribed according to the transcription conventions proposed by MacKey and Gass (2005) and double-checked by comparing the protocol with the recorded audios. To guarantee the reliability of protocols analysis, the

researchers incorporated a list of problem indicators which was previously used by Krings (1986: 267) to identify the translation problems and translation strategies on the basis of think aloud protocols. The list of problem indicators is as follows:

1. The subjects' explicit statement of problems
2. The use of reference books
3. The underlining of source language passages
4. Hesitation phenomena in the search for potential equivalents
5. Competing potential equivalents
6. The monitoring of potential equivalents
7. Specific translation principles
8. The modification of written target language texts
9. The assessment of the quality of the chosen translation
10. Paralinguistic or non-linguistic features.

Results and Discussion

The calculation of the frequency of the overall strategies used by the participants determines the key strategies used by the translation students involved in the study. Although the results of this study may not be generalizable to all other students, they can pave the way for further studies on students' strategy preferences so that some generalizations can be reached.

The analysis of the participants' verbal protocols indicated that both direct and indirect strategies were incorporated by the students. Further analysis showed that not all subcategories of memory, cognitive, compensation, metacognitive, affective and social strategies were used by the participants; that is, it is expected that one considers a slightly different interpretation of each strategy as it is put forward by Oxford (1990).

Based on the observation, the strategies can be classified as six main categories, which, in turn, would be subordinated to either direct or indirect categories.

Direct Strategies

Memory Strategies

Memory strategies refer to the mental linkages made by a learner (or anyone engaged in a problem-solving task). Associating, applying images, or employing actions are some examples.

After reading the first lines of the passage, the participant of the study referred to her background knowledge and remembered the names of two key figures in the field of physics, Einstein and Newton; that is she associated the names and concepts presented in the text with one another.

(۱).... پس متن راجع به دو دانشمند کله گنده ست...

(۲) ... این باید راجع به نیوتن باشه که راجع به جاذبه‌اش صحبت می‌کنه ...

Cognitive Strategies

Cognitive strategies are those used in practicing (e.g., recognizing and using formulas and patterns, receiving and sending messages, analyzing and reasoning either deductively or inductively, or creating structure for input and output).

The participant involved in the study, who was trying to translate the phrase "the observer assumes that...", tried first to provide a lexical equivalent based on her knowledge; however, by applying a cognitive strategy, she got the point quickly and revised the translated text:

(۳).... مشاهده‌گر وانمود که نمیکنه ... فرض می‌کنه ...

(۴).... انگلیسی‌ها می‌گن یک نیرو، ما می‌گیم نیرویی ...

(۵) attract ... به معنای جذب کردنه ... یعنی چی؟ ... یعنی باعث می‌شه که این نیرو

جذب می‌شه ...

(۶) ... اینجا می‌خواد به نیروی جاذبه برسه ... کی این کار رو می‌کنه ... نیروی جاذبه

هست ...

Compensation Strategies

Compensation strategies help learners or participants in a task (here translation task) compensate for their linguistic inadequacies (e.g. guessing intelligibly by using linguistic clues, or overcoming limitations in providing the equivalent phrases by approximating the message).

Having failed to find the meaning of "city lot" in her dictionaries, the participant in this study attempted to approximate the meaning to "city hall".

(۷) ... یعنی city lot همون city hall هست ...

Indirect Strategies

Metacognitive Strategies

Metacognitive strategies are used for arranging and planning (e.g. using already known knowledge, or delaying something to focus on something else, finding out about language) as well as evaluating (e.g. self-monitoring or self-evaluation).

The participant in this study, during the translation of a key lexical item, was self-monitoring when she decided to replace that particular item by a more appropriate one.

(۸) ... چرا میگم انحنه ... این همان پستی و بلندی‌های زمین است ...

(۹) ... باید دوباره بخونم...

(۱۰) ... اول باید بخونیم ببینیم بحث راجع به چیه ...

(۱۱) ... repel رو باید نگاه کنم ... یعنی پس زدن، دفع کردن ... مثل

withdrawing هست ... نه ... اون دفاع کرده ...

Affective Strategies

Learners or task doers use affective strategies to lower their anxiety (e.g. laughter, or deep breathing). Moreover, they may encourage themselves or discuss their feelings with someone else.

The participant in this study got prepared for observation and murmured the name of "Allah" to relieve herself.

(۱۲) ... بسم الله الرحمن الرحيم ...

(۱۳) ... گوشى اينجا باشه بهتره ... راحت ترم ...

Social Strategies

Social strategies are used by learners or task doers to establish social relationships (e.g. asking questions to clarify or verify, cooperating with others, empathizing with others, to become aware of others thoughts and feelings).

Upon failing to infer the meaning of the phrase "10-storey building", the participant in the present study preferred to ask her peer in order to clarify its meaning.

(۱۴) ... 10-storey منظورش يعنى ده فروشگاست؟

(۱۵) ... کوژى ... چولى ... يعنى چى؟ ...

The Frequencies of the Strategies

This study demonstrated that all the participants used the main direct and indirect language learning strategies proposed by Oxford (1990). The results are shown in table 1 in details. However, as it was expected, there are obvious differences both in terms of the frequency of each strategy use among the participants and the frequency of the application of each type of strategy by a particular participant.

Based on the observation made in the study, it is possible to acknowledge the notion put forward by Robinson (1997) that translation is actually a language learning process and the

translator is always a learner. Furthermore, the researchers agree with the notion that "translation is an intelligent activity, requiring creative problem-solving in novel textual, social and cultural conditions" (Robinson, 1997: 51).

Table 1
The frequency of strategy use

CASES \ STRATEGIES	MEMORY	COMPENSATION	COGNITIVE	DIRECT	MET-ACOGNITIVE	AFFECTIVE	SOCIAL	INDIRECT
CASE 1	6	2	35	43	16	2	2	20
CASE 2	3	3	22	28	21	1	1	23
CASE 3	1	2	31	34	18	1	4	23
CASE 4	2	1	15	18	6	2	3	11
CASE 5	2	4	28	34	12	1	2	15
CASE 6	1	1	17	19	14	2	1	17
CASE 7	2	2	15	19	11	1	1	14
CASE 8	2	3	21	26	9	4	2	15
CASE 9	2	2	19	23	16	5	1	22
CASE 10	3	2	27	32	13	4	4	21
CASE 11	7	1	28	37	17	2	2	21
CASE 12	3	4	23	30	19	5	3	27
TOTAL	34	27	281	343	172	30	26	229

Moreover, while translating an expository text, the novice translators tend to incorporate more direct strategies than indirect ones (see Graph 1); that is direct strategies seem to have much more essential roles in novice translators' achievement. However, to answer the first research question of this study, it is necessary to move a step further and look for a difference or a relationship between the use of direct strategies and indirect ones.

To find out whether there was any significant difference between the two categories, Chi square test was run. Since Chi square test did not indicate the strength (effect size) of a statistically significant relationship, the optimal Phi and Cramer's V tests were used as a measure of the strength of the relationship between these two categories (Leech, et al., 2005). Table 2 shows the results obtained by running Chi square test, demonstrating that the observed value of 87 does not reflect a significant difference between the use of direct strategies and indirect ones among novice translators.

Table 2

Difference between the use of direct strategies and indirect strategies

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	87.000 ^a	80	.277
Likelihood Ratio	48.547	80	.998
Linear-by-Linear Association	1.987	1	.159
N of Valid Cases	12		

a. 99 cells (100.0%) have expected count less than 5. The minimum expected count is .08.

To check the availability of any possible relationship between the use of direct strategies and the indirect ones, Phi and Cramer's V tests were used (see Table 3). The observed values for Phi and Cramer's V tests, 2.7 and 0.95 respectively, mirrors the fact that one can hardly find any relationship between the use of direct strategies and indirect ones among novice translators.

Table 3

*Relationship between direct strategies and indirect strategies***Symmetric Measures**

		Value	Approx. Sig.
Nominal by	Phi	2.693	.277
Nominal	Cramer's V	.952	.277
N of Valid Cases		12	

Further analysis shows that there are significant differences between the use of cognitive and meta-cognitive strategies and other types of strategies used by the participants of this study (see Graph 2). The overall frequency of strategies used by these undergraduate participants demonstrates that translation can be studied as though it were a language learning process, especially in terms of the process of problem solving.

Conclusion

As it was discussed earlier, studying 'good language learners' and students' learning strategies is not new phenomenon in the field of applied linguistics, especially English language teaching. However, it was not until the emergence of the cognitive movement in translation studies that novice translators' strategies began to attract the attention of researchers. The study at hand adopts a new perspective toward the incorporation of translation strategies employed by novice translators; that is, it attempts to view them from the perspective of Oxford's (1990) taxonomy of learning strategies. To this end, two research questions were brought up, aiming to explore the applicability of the taxonomy to translation tasks and identification of frequently used strategies.

According to the findings of this study regarding the first research question, the strategies used by the undergraduate participants of this study can be well classified in terms of direct and indirect strategies as proposed by Oxford (1990). In comparison with classifications proposed by previous studies,

especially those of Krings (1986), Gerloff (1986) and Bernardini (2001), which only present a description of translation strategies, the findings of this study can be more promising in terms of devising strategies-based instructional treatments and materials. Unlike the previous studies which were only concerned with offering descriptive classifications based on their observed data, the study at hand provides a weighted classification which reflects the significant roles of cognitive and metacognitive strategies in accomplishing translation tasks.

Based on the findings related to the second research question, although there exist significant differences between the use of cognitive and metacognitive strategies and other types, there is no significant difference between the use of direct and indirect strategies. This can imply the balanced roles of these two main strategies in translation tasks. This finding furthers the scope of Mondhal and Jensen's (1996) findings which seem to reflect the metacognitive aspects of translation process.

The findings of this research is promising in the sense that they could stimulate further research into the application of different forms of strategies-based instruction to translation classrooms, the development of a translation strategies inventory, and the improvement of translation training programs and materials.

The Author

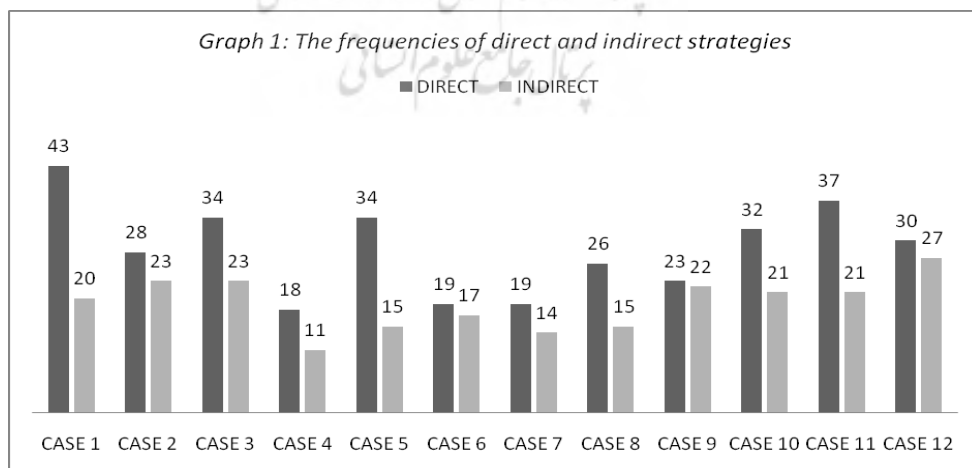
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References

- Austin, J. and Delaney, P. F. (1998). Protocol analysis as a tool for behavior analysis. *Analysis of Verbal Behavior* 15: 41-56.
- Bernardini, Silvia (2001). Think-aloud Protocols in Translation Research: Achievements, Limits, Future Prospects. *Target* 13(2): 241-263.
- Brown, H. D. (2007). *Principles of language teaching and learning*. London: Longman.
- Ehresenberger-Dow, M. and Perrin, D. (2009). Capturing translation processes to access metalinguistic awareness. *Across Languages and Cultures* 10 (3): 275-288.
- Ellis, R. (1994). *The study of second language acquisition*. Oxford: OUP.
- Ericsson, K. A. and Crutcher, R. J. (1991). Introspection and verbal reports on cognitive processes - two approaches to the study of thought processes: A response to Howe. *New Ideas in Psychology* 9: 57-71.
- Ericsson, K. A. and Lehmann, A. C. (1996). Expert and exceptional performance: Evidence on maximal adaptations on task constraints. *Annual Review of Psychology* 47: 273-305.
- Ericsson, K. A. and Simon, H. A. (1993). *Protocol Analysis: Verbal reports as data*. MIT Press: Cambridge, MA.
- Gerloff, P. (1986). Second language learners' reports on the interpretive process: Talk-aloud protocols of translation. In House, J. and S. Blum-Kulka (eds.) *Interlingual and intercultural communication*. Tübingen: Gunter Narr.
- Gopferish, S. (2010). Data documentation and data accessibility in translation process research. *The Translator*, 16 (1): 93-124.
- Krings, H.P. (1986). Translation problems and translation strategies of advanced German learners of French. In House J. and Blum-Kulka, S. (eds) *Interlingual and intercultural communication*. Tübingen: Gunter Narr.

- Leech, N., Barret, K., and Morgan, G. (2005). *SPSS for intermediate statistics: Use and interpretation*. London: LEA.
- Li, D. (2004). Trustworthiness of think-aloud protocols in the study of translation processes. *International Journal of Applied Linguistics* 13(3): 301- 313.
- Mackey, A. and Gass. S. (2005). *Second language research: Methodology and design*. London: LEA.
- Mondhal, M. and K. A. Jensen. (1996). Lexical search strategies in translation. *Meta* 41, 1: 97-112.
- O'Malley, J. and Chamot, A. (1989). *Learning strategies in second language acquisition*. Cambridge: Cambridge University Press.
- Oxford, R. (1990). *Language learning strategies: What every teacher should know*. Rowley, MA: Newbury House.
- Pavlovic, N. (2009). More ways to explore the translating mind: Collaborative translation protocols. *Copenhagen Studies in Language* 37: (81-105)
- Robinson, D. (1997). *Becoming a translator*. London: Routledge.
- Ronowicz E. and Imanishi K. (2003). Task management and lexical search mechanisms in novice and professional translators. *Interpretation Studies* 3: 16-34.
- Seliger, H. (1984). Processing universals in second language acquisition. In F. Eckman, et al. (eds) *Universals of second language acquisition*. Rowley, MA: Newbury House.

Appendix



Graph 2: The frequencies of strategies

