A Triangulated Approach to Reading Strategy Use: Do General and Academic Reading Materials Make a Difference?

Javad Zare*
PhD Candidate of Applied Linguistics at the University of Isfahan, Iran

Abstract
This paper was an attempt to explore the reading strategy use of Iranian M.A. students with general and discipline-related texts. More specifically, this was an endeavor to see if relation to discipline affects the reading strategy use of the students. To this end, a Nelson test and the reading comprehension section of TOEFL were used to select sixty-five power engineering and physics M.A. students at Iran University of Science and Technology (IUST) to participate in the study. Given the mixed-methods nature of the study, both quantitative, Survey of Reading Strategy Use (SORS), and qualitative, think-aloud protocol, procedures were followed. The participants based their responses to SORS and the think-aloud procedure on the reading comprehension section of TOEFL test and two discipline-related reading comprehension tests. By and large, analysis of these two procedures suggested that reading strategy use did not differ significantly across general and discipline-related texts, as long as power engineering and physics students are concerned. Additionally, whereas power engineering students used strategies more frequently with general reading texts, physics students resorted to strategies more frequently with discipline-related texts.

Keywords: reading strategy use, think-aloud protocol, SORS, mixed-methods

* PhD candidate of Applied Linguistics at the University of Isfahan, Iran
Received on: 06/01/2016
Accepted on: 15/03/2016
Email: javadzare@gmail.com
1. Introduction

There is an old proverb which says “give a man a fish and he eats for a day. Teach him how to fish and he eats for a lifetime.” Applied to the field of language teaching, it might be taken to mean that if students are instructed how to learn, they are enabled to learn any language by themselves (Wenden, 1985).

Over the years, a great deal of attempt has been made to develop theories of language learning. However, issues relating to learner and how learning takes place have always been treated with neglect (Griffiths, 2013). It was in the 1970s that a significant shift took place in second language acquisition. This significant shift resulted in a new line of research with less stress on teachers and teaching and more emphasis on learners and learning. Since then, a great deal of effort has gone into developing theories accounting for individual differences in language learning.

One of the concepts which are directly related to individual differences is language learning strategies. Oxford (1993, p. 175) refers to language learning strategies as “specific actions, behaviors, steps, or techniques that students employ – often consciously – to improve their own progress in internalizing, storing, retrieving, and using the L2”. Reading strategies, as sub-category of learning strategies, are “the mental operations involved when readers purposefully approach a text to make sense of what they read” (Garner & Alexander, 1989, p. 66). Hence, reading strategies are deliberately planned and used by learners to remedy apparent cognitive failure.

Language learning strategies, in general, and reading strategies, in particular, are believed to be of paramount importance in any act of reading for their facilitative effect on reading comprehension and what they reveal about the readers’ orchestration of their interaction with the text. In this regard, Brown (2007, p. 306) asserts “reading comprehension is a matter of developing appropriate, efficient comprehension strategies”.

Valuable work has been and continues to be done on different aspects of reading strategies. Yet, certain variables remain less explored in the literature. One of the variables that affect strategy choice is the context or the task at hand. Many investigations have been conducted into the effect of context on strategy choice (e.g. Eley, 1992; Harish, 2014; Kramsch, 1993; Kyungsim & Leavell, 2006; Norton & Toohey, 2001; Oxford, 1996; Takeuchi, Griffiths, & Coyle, 2007; Yvonne, Vermetten, Lodewijks, & Vermunt, 1999).

Since EAP university students have to deal with various types of English materials from general texts to more technical articles and course books throughout their studies, an understanding of the difference between the strategies used when reading general and technical texts may pave the way for designing effective course materials and class activities that improve the
students’ reading comprehension, benefiting from the specifics of the learning environment. Nevertheless, little, if any, to the knowledge of the authors, is known about the strategies used for reading general and technical texts. To this end, the present study is an attempt to investigate whether there is any significant difference in the reading strategy use of university M.A. students in general and academic reading comprehensions.

2. Literature Review

2.1 Conceptualization of Language Learning Strategy

The concept of language learning strategy has been extremely difficult to define in an agreed fashion, as Ellis (1994) states. It has been referred to as “elusive” (Wenden, 1991, p. 7), “fuzzy” (Ellis, 1994, p. 529) and “fluid” (Gu, 2005, p. 2). Definitional fuzziness of language learning strategy as a thought-provoking issue has recently been debated and talked over vigorously in the literature (Dörnyei, 2005; Gao, 2007; Griffiths & Oxford, 2014; Macaro, 2006; Skehan, 1989; Tseng, Dörnyei, & Schmitt, 2006).

Chamot (2004) describes learning strategies as the conscious thoughts and actions taken by learners in order to achieve a learning goal. Strategic learners, as Chamot notes, have meta-cognitive knowledge about their own thinking and learning approaches, a good understanding of what a task entails, and the ability to orchestrate the strategies that best meet both the task demands and their own learning strengths. More recently, Griffiths (2013, p. 36) describes language learning strategies as “activities consciously chosen by learners for the purpose of regulating their own language learning.”

Based on this definition, Griffiths (2008) suggests six important features of language learning strategies: (1) they are active (Brown, 2007; Chamot, 1987; Cohen, 1998; Oxford, 1990b; Wenden, 1987); (2) they are conscious (Chamot, 2004, 2005; Cohen, 1998; Cohen & Macaro, 2007; Grabe & Stoller, 2002; Macaro, 2006; Oxford, 2003); (3) they are optional (Cohen, 1998; Oxford, 2003); (4) they are goal-oriented (Chamot & Kupper, 1989; Oxford, 1990b); (5) they are oriented toward self-regulation (Oxford, 2003; Wenden, 1991); (6) they are not automatic and facilitate learning (Oxford, 1990b).

2.2 Studies in Language Learning Strategy

After the introduction of the concept of language learning strategies, the need for operationalization of this newly identified concept became apparent, leading to a rush of research into this field. Generally, these studies fall into two basic categories. The first is a broad group of descriptive studies which focus on the features of successful and poor language learners, the total number of strategies, used by learners or groups of learners, referred to as
A Triangulated Approach to Reading Strategy …

taxonomy, and comparisons of strategy use among different groups of learners (Lee & Oxford, 2008; Naiman, 1975; Oxford, 1999; Reis, 1985; Rubin, 1975). The second is a group of intervention studies which seek to discover whether it is possible to cause change in learners’ strategy use through strategy instruction (Chamot, 2004, 2007; Chamot, Barnhardt, El-Dinary, & Robbins, 1996; Grenfell & Harris, 1999; Harris, Gaspar, Jones, Ingvarsdotir, Palos, Neuburg, & Schindler, 2001; McDonough, 1999; O’Malley & Chamot, 1990).

The first line of these studies began in the 1970s with the seminal works of Rubin (1975) and Stern (1975: 42) who suggest that a model of “the good language learner” could be constructed around special strategies that successful L2 learners use.

Studies into less successful second language learners and readers, generally, form three distinct viewpoints. The first perspective holds that such learners use fewer strategies than successful learners and that these strategies are highly restricted to type (Ehrman & Oxford, 1995; Green & Oxford, 1995; Hosenfeld, 1977; Parilah, Aminuddin, Suhana, Nurulhafizah, Yurni, Shahirah, & Hashim, 2010; Vandergrift, 1997). The second view is that less successful L2 learners do not really know what strategies they use. In other words, they cannot readily explain the strategies they use. As a matter of fact, developing an awareness of strategies is a necessity for their language learning to be effective (Macaro, 2006; Nyikos & Oxford, 1993; Sheorey & Mokhtari, 2001). And the third viewpoint maintains that several less successful L2 learners are indeed aware of the strategies they use, and employ them as often as do successful learners. However, the difference lies in careful orchestration of strategies by good language learners (Ku, 1997; Vann & Abraham, 1990). This viewpoint implies that there is no single set of strategies that good or successful language learners use. Rather, less successful learners use strategies in a random, unconnected, and uncontrolled manner (Chamot et al., 1996), whereas more effective learners show careful orchestration of strategies, targeted in a relevant and systematic way at specific L2 tasks (Khaldieh, 2000; O’Malley, & Chamot, 1990).

Therefore, it can be presumed that a strategy is neither good nor bad; it is essentially neutral until the context in which it is used is thoroughly considered. Rubin (2008, p. 11) stresses “it is not the presence or absence of a strategy that leads to effective learning; rather it is how that strategy is used (or not used) to accomplish tasks and learner goals”. Dörnyei (2005) also points out, it is the operationalization of the strategy that is critical, not the strategy.

Aimed to achieve an operationalization of strategies, Eley’s (1992) study suggested that individual students use different strategies in different learning contexts. However, the variability shown by individual students from one context to another seems quite small in magnitude. Eley attributes this variability to either or both of two explanations. First, the two contexts have
common teaching patterns. Second, variability stems from personal traits and individual differences. Eley argues that learners have “well established predispositions towards particular patterns of study, and they tend to select course units which fit” (Eley, 1992, p. 251).

Entwistle and Ramsden (cited in Yvonne et al., 1999) also investigated students’ use of reading strategies in different academic tasks. Their findings indicate that the same students use different strategies under different circumstances.

Yvonne et al. (1999) investigated consistency and variability of learning strategies in different university courses. The authors concluded that reported learning strategies differ among university courses within the same group of students.

Lately, Harish (2014), drawing on structuralist and sociocultural theories, investigated social strategy use of India’s Malayalee undergraduate students across three main language learning contexts (in class, on campus outside the classroom, and off campus). The results indicated that social strategy use of the students is highly context-bound.

### 2.3 General English and EAP

As mentioned earlier, the area of concern for this study is consistency or variability of reading strategy use over general materials (General English) and technical or academic texts (English for Academic Purposes). Difference in strategy use between these two cases may be attributed to the difference between these types of materials. English for Academic Purposes (EAP) courses are usually taken by adults who already have some familiarity with English and learning for specialized purposes. As a matter of fact, an EAP program is built around an assessment of learners’ needs and purposes. Accordingly, while in a General English (GE) course, all the four language skills are important, in an EAP course it is the language needs analysis that determines which skills to teach. O’Malley and Chamot (1990, p. 140) note that the “objectives of a particular language course determine to a large degree the types of strategies students learn to use”.

The difference between GE and EAP can also be attributed to the use of language. As Fiorito (2005) points out, ESP programs, in general, and EAP courses, in particular, focus more on the language used in context, while GE courses concentrate on teaching grammar and view language as separated from the students’ real world. EAP is also different from GE, as EAP’s focal point is the integration of language into a subject matter which is important to learners. This combination, according to Fiorito, of subject matter and English language teaching can be both motivating and beneficial.
2.4 The Need for More In-Depth Studies of Reading Strategies

By and large, the points mentioned in the last two sections indicate the susceptibility of learning strategies to changes in the context of use. The finding that students adapt their learning strategies to the specifics of the learning environment suggests that strategies are prone to context determination.

The rationale underlying this study is the notion that “the learner consciously chooses strategies that fit his or her learning style and the L2 task at hand” (Oxford, 2003, p. 2). Therefore, this study investigated whether there was any qualitatively and quantitatively significant difference in the reading strategy use of university M.A. students in reading general and academic texts. The following research question was addressed in this study:

Is there any significant difference between the reading strategy use of university M.A. students in reading general and technical texts?

3. Method

3.1 Participants

The participants of this study were 65 Iranian M.A. students from Iran University of Science and Technology (IUST), selected through accidental or availability sampling. Thirty-two of the participants (49%) were studying power engineering; of this number twenty-seven were tested with the use of SORS and five were tested through a think-aloud procedure. The remaining thirty-three of the participants (51%) were students of physics; likewise, of this number twenty-eight were tested with the use of SORS and five were tested through a think-aloud procedure. Participants were all male and their ages ranged from 24 to 30. Willingness, commitment to spend a minimum of three hours for participating in all phases of the study, their academic field of study, and gender were the criteria for selection in the study.

3.2 Instrumentation

In this study, two English language proficiency tests, a strategy inventory—SORS (Appendix), a think-aloud procedure, and two technical reading texts were used as the main instruments for data collection. Nelson test and the reading section of TOEFL test were used as pretests to tap students’ English proficiency level and to ensure homogeneity. The reading section of the TOEFL was also used as a specific language task based on which the participants reported their strategy use. In a pilot test, the TOEFL’s measure of internal consistency i.e. Cronbach’s alpha turned out to be (0.85). This was calculated because only the reading section of the original TOEFL test was administered to the students.
Survey of Reading Strategy (SORS), along with a think-aloud procedure, were employed to tap the type and the extent to which each reading strategy was used. SORS measures adolescent and adult EFL or ESL students’ metacognitive awareness and perceived use of reading strategies while reading academic materials (Mokhtari & Sheorey, 2002). The think-aloud procedure was used to complement the findings obtained from SORS.

SORS measures three broad subscales of reading strategies including global, problem-solving, and support strategies (Mokhtari & Sheorey, 2002). The first factor, global reading strategies, includes 13 items which represent a set of reading strategies oriented towards a global analysis of the texts. The second factor, problem-solving reading strategies, comprises eight items which present strategies for facing difficulty when reading. The third factor, support reading strategies, contains nine items which primarily involve the use of outside reference materials, taking notes, and other strategies which provide support mechanisms for enhancing reading comprehension.

Original SORS was in English. However, following Griffiths and Oxford’s (2014) recommendation for the use of strategy inventories and in order to avoid confusion on the part of the subjects, it was decided to adapt SORS for the purposes of this study. At first, it was translated into Persian. Afterwards, the translated version was submitted to a Persian language expert for further proofreading. Some subsequent modifications regarding directness, simplicity, specificity, and discreteness (Kavita, Sleezer, & Russ-Eft, 2007) were made to the translated version. The strategy category identifications of questions, which were apparent in the original SORS, were also removed in the adapted version to avoid any distraction or confusion.

Upon completion, the Persian version of SORS was subjected to pilot testing. This was done in response to Oxford’s (2011) recommendation that in using a pre-existing strategy inventory, researchers had better make cultural adaptations and re-assess reliability and validity of the inventory they use. The results of the reliability analysis revealed a Cronbach’s alpha of 0.78. Because of their large number of items, surveys tend to be strong in reliability, though; validity seems to be a major setback in questionnaire development (Barker, Pistrang, & Elliott, 2005). This can be attributed to humans’ feelings and trends being hard to assess by Likert-type rating scales. Validation of self-report measures, for the most part, has tended to rely on face validity (Crandall, 1976). The reviews, proof readings, and modifications made to wording, content, and format of the questionnaire were all concerned with validity, and may ensure practicality of the instrument; it has been used frequently before, after all.

Two technical reading texts were also employed in the study. These texts were constructed around some essays from within the literature of the two fields. To keep originality of the texts, their discourse features, and technical
load, the researcher kept the content of the essays intact. However, length of the texts was investigated to be equal. Readability indices of the texts were also calculated to ensure homogeneity. The Gunning-Fog Index for the two texts—power engineering, and physics—were computed to be 16.49, and 15.90, which indicate an average amount of readability. For questions, ten items including three factual, three referential, three inferential, and one vocabulary questions were written (Farhady, 1998). Afterwards, the two technical reading texts were subjected to pilot testing, the results of which revealed Cronbach’s alpha of 0.815, and 0.723 for power engineering, and physics texts, respectively. Expert opinion was taken into consideration for maintaining validity of these texts.

3.3 Data Collection Procedure

The participants took the Nelson test and the reading comprehension section of the TOEFL in two separate sessions. Based on their scores on these two tests, they were selected for inclusion in the investigation.

Having been pretested, thirty-two power engineering, and thirty-three physics M.A. students were chosen for the investigation. To achieve accurate assessments of the use of reading strategies, SORS was given to the subjects upon completion of the reading section of the TOEFL. During the TOEFL reading test, students were instructed to verbalize their thoughts through a think-aloud procedure. These verbalizations were recorded and later transcribed to check their consistency with the results of SORS. One point worth noting is that in response to the growing use of mixed-methods approach in studies of applied linguistics and Woodrow’s (2005, p. 96) criticism that “with so many contextual influences on strategy choice, it seems that a single instrument could not possibly be applicable and useful to all possible groups of language learners”, both quantitative, SORS, and qualitative, think-aloud, methods were used to complement the findings.

Subsequently, three technical reading texts were developed for the objectives of this study. Considerable attention was paid when developing these reading passages because if any difference in the participants’ strategy use could be observed, it would be because of these materials. Afterwards, these technical reading texts were administered to the subjects. Meanwhile, participants were asked to verbalize their thoughts with regard to how they read the technical texts. Later on, SORS was administered upon completion of the general and academic passages and the think-aloud procedure. In this way, they would not report their strategies from the items of SORS.

Subjects were all reminded that there was no right or wrong answer, their forthright and honest responses were important, and confidentiality was respected (Dörnyei, 2003). They were also assured that the researcher was only interested in an assessment of what they did while reading the general and
technical passages. Afterwards, statistical analyses were employed to check the significance of the results obtained from SORS. Finally, the results of SORS and think-aloud were compared to triangulate the findings.

4. Results and Discussion

This study investigated consistency/variability of reading strategy use over general and academic reading passages. Paired-samples t-tests were run to find the difference between mean scores of overall reading strategy use of power engineering and physics students when reading academic and general texts.

Table 1

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic OVERALL</td>
<td>27</td>
<td>2.53</td>
<td>3.90</td>
<td>3.2679</td>
<td>.34188</td>
</tr>
<tr>
<td>General OVERALL</td>
<td>27</td>
<td>2.60</td>
<td>4.03</td>
<td>3.3148</td>
<td>.37908</td>
</tr>
<tr>
<td>Academic GLOB</td>
<td>27</td>
<td>2.69</td>
<td>4.08</td>
<td>3.3533</td>
<td>.38180</td>
</tr>
<tr>
<td>Academic PROB</td>
<td>27</td>
<td>2.75</td>
<td>4.50</td>
<td>3.6620</td>
<td>.45311</td>
</tr>
<tr>
<td>Academic SUP</td>
<td>27</td>
<td>1.56</td>
<td>4.11</td>
<td>2.7942</td>
<td>.61301</td>
</tr>
<tr>
<td>General GLOB</td>
<td>27</td>
<td>2.46</td>
<td>4.08</td>
<td>3.3903</td>
<td>.43353</td>
</tr>
<tr>
<td>General PROB</td>
<td>27</td>
<td>2.75</td>
<td>4.63</td>
<td>3.7083</td>
<td>.49638</td>
</tr>
<tr>
<td>General SUP</td>
<td>27</td>
<td>1.89</td>
<td>4.11</td>
<td>2.8354</td>
<td>.52873</td>
</tr>
</tbody>
</table>

As Table 1 shows, power engineering students used reading strategies more frequently following general texts than technical texts. More specifically, regarding the use of each strategy subscale, power engineering students used strategy subscales more frequently when reading general texts than when reading technical passages. However, as Table 1 illustrates, the difference in frequency of use in the two conditions was slight. It is interesting to note that power engineering students reacted more strategically in terms of frequency when dealing with general passages than when dealing with technical texts. In line with this, almost all the participants declared in their verbalizations in the think-aloud procedure that in reading the technical text, their technical knowledge played a very important role for their better understanding of the passage. However, the general passage became difficult when they lacked such knowledge about the topic; that is why they resorted to strategic behavior.

As Table 2 illustrates, paired-samples t-test yielded a value of .672 for observed statistic, $t_{observed}$, which is smaller than $t_{critical}$, 2.056, at .05 level of significance. This finding reveals that the difference observed among the mean scores of strategy use was not significant. More specifically, the use of reading strategies did not depend on the type of the text that power engineering students read.
A Triangulated Approach to Reading Strategy …

Table 2
Paired Samples Test of Overall Reading Strategy Use (Electrical Power Engineering)

<table>
<thead>
<tr>
<th>Paired Differences</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>95% Confidence Interval of the Difference</th>
<th>T</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic OVERALL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General OVERALL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pair 1</td>
<td>.046</td>
<td>.568</td>
<td>.109</td>
<td>-.271</td>
<td>.177</td>
<td>.429</td>
<td>26</td>
</tr>
</tbody>
</table>

Additional paired-samples t-tests were conducted to see if the use of each strategy subscale differed between general and academic texts. Table 3 summarizes the results.

Table 3
Paired Samples Test of Reading Strategy Subscales (Power Engineering)

<table>
<thead>
<tr>
<th>Paired Differences</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>95% Confidence Interval of the Difference</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pair 1 GLOB –</td>
<td>-.037</td>
<td>.647</td>
<td>.124</td>
<td>-.293</td>
<td>.219</td>
<td>-.297</td>
<td>26</td>
</tr>
<tr>
<td>General GLOB</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pair 2 PROB –</td>
<td>-.046</td>
<td>.648</td>
<td>.124</td>
<td>-.302</td>
<td>.210</td>
<td>-.371</td>
<td>26</td>
</tr>
<tr>
<td>Academic PROB</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pair 3 – SUP</td>
<td>-.041</td>
<td>.881</td>
<td>.169</td>
<td>-.389</td>
<td>.307</td>
<td>-.243</td>
<td>26</td>
</tr>
<tr>
<td>General SUP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As Table 3 illustrates, the \( t \) observed values for global, problem-solving, and support strategy subscales were .769, .714, and .810, respectively. For each pair, \( t_{observed} \leq .769, .714, \text{ and } .810 \) is smaller than \( t_{critical} (2.056) \) at .05 level of significance. Accordingly, the analysis reveals that the use of each strategy subscale by power engineering students was not statistically different for general and academic texts either.

The same statistical analyses were conducted for physics students. Table 4 illustrates the results.

As Table 4 presents, physics students used reading strategies more frequently for the technical text than for the general passage. Interestingly, physics students reacted differently. Regarding the use of each strategy subscale, physics students used problem-solving and support strategy subscales
more frequently when they read the technical passage than when they read the general text. However, as Table 4 illustrates, the difference was slight.

Table 4
Descriptive Statistics (Physics)

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic OVERALL</td>
<td>28</td>
<td>2.67</td>
<td>3.90</td>
<td>3.3556</td>
<td>.43908</td>
</tr>
<tr>
<td>General OVERALL</td>
<td>28</td>
<td>2.63</td>
<td>3.90</td>
<td>3.2944</td>
<td>.44241</td>
</tr>
<tr>
<td>Academic GLOB</td>
<td>28</td>
<td>2.62</td>
<td>4.00</td>
<td>3.3782</td>
<td>.44184</td>
</tr>
<tr>
<td>Academic PROB</td>
<td>28</td>
<td>2.88</td>
<td>4.50</td>
<td>3.7396</td>
<td>.52076</td>
</tr>
<tr>
<td>Academic SUP</td>
<td>28</td>
<td>2.33</td>
<td>3.89</td>
<td>2.9907</td>
<td>.51714</td>
</tr>
<tr>
<td>General GLOB</td>
<td>28</td>
<td>2.69</td>
<td>4.00</td>
<td>3.4679</td>
<td>.46207</td>
</tr>
<tr>
<td>General PROB</td>
<td>28</td>
<td>3.00</td>
<td>4.50</td>
<td>3.5938</td>
<td>.47412</td>
</tr>
<tr>
<td>General SUP</td>
<td>28</td>
<td>1.78</td>
<td>4.00</td>
<td>2.7778</td>
<td>.62496</td>
</tr>
<tr>
<td>Valid N (list wise)</td>
<td>28</td>
<td>---------</td>
<td>---------</td>
<td>-------</td>
<td>----------------</td>
</tr>
</tbody>
</table>

Interestingly, the results of the think-aloud procedure indicated that there was a slight difference between reading strategy use of physics students in the two conditions. Therefore, we concluded that, in terms of strategic behavior, physics students acted slightly differently from power engineering students, as they used more strategies for technical texts than power engineering students did.

Table 5
Paired Samples Test of Subscale and Overall Strategy Use (Physics)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>Std. Error</th>
<th>95% Confidence Interval of the Difference</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1: Academic OVERAL – General OVERAL</td>
<td>.061</td>
<td>.669</td>
<td>.193</td>
<td>-.364 – .486</td>
<td>.316</td>
<td>27</td>
<td>.758</td>
</tr>
<tr>
<td>Pair 2: Academic GLOB – General GLOB</td>
<td>-.089</td>
<td>.671</td>
<td>.193</td>
<td>-.516 – .336</td>
<td>-.463</td>
<td>27</td>
<td>.652</td>
</tr>
<tr>
<td>Pair 3: Academic PROB – General PROB</td>
<td>.145</td>
<td>.786</td>
<td>.227</td>
<td>-.353 – .645</td>
<td>.642</td>
<td>27</td>
<td>.534</td>
</tr>
<tr>
<td>Pair 4: Academic SUP – General SUP</td>
<td>.212</td>
<td>.813</td>
<td>.234</td>
<td>-.303 – .729</td>
<td>.907</td>
<td>27</td>
<td>.384</td>
</tr>
</tbody>
</table>

As Table 5 shows, t_{observed} for overall, global, problem-solving, and support strategy subscales were .758, .652, .534, and .384, respectively. For each pair, t_{observed} is smaller than t_{critical}, 2.201 at .05 level of significance. Accordingly, the analysis reveals that the difference, reported in the use of each strategy subscale, was not statistically significant. In essence, physics
students used the same strategy subscales with slightly different frequencies in reading general and academic texts.

Despite the slight differences observed among the two groups in their use of reading strategies for general and academic passages, the results of the analyses of SORS and think-aloud data reveal that the differences were not significant. That is, reading strategy use of Iranian M.A. students did not vary, to a large extent, when reading general and technical passages. This finding is not in line with Harish (2014), Hadwin, Winne, Stockley, Nesbit, and Woszczyna (1997, cited in Yvonne et al., 1999) and Yvonne et al. (1999) who find strategy use statistically different in different situations. Their interpretation of this finding in its strongest form suggest “a model of the student as rational decision maker who considers each learning task individually” and adopts strategies accordingly (Eley, 1992, p. 232).

However, as in Eley’s (1992) study, this study revealed a marginal variability in strategy use from general to technical passages. As Eley notes, this small magnitude in variability can be attributed to common features of the two contexts or similar personal traits among the students. Eley argues that learners come to a task with “well established predispositions towards particular patterns of study, and they tend to select course units which fit” (Eley, 1992, p. 251). In other words, personal traits or predispositions overshadow the role of task in choosing strategies.

5. Conclusion and Implications

Language learning strategy research, on the whole, contributes to an important and necessary modification, as Oxford and Nyikos (1989) assert. This modification involves “changing language learning classrooms into stimulating places where use of communicatively-oriented strategies for both learning and teaching will be commonplace” (Oxford & Nyikos, 1989, p. 297). This change may not lie in the application of a certain approach, but in “promoting a conscious awareness and use of workable strategies within the confines of the foreign language classroom” (Oxford & Nyikos, 1989, p. 297). As there is no cure-all set of strategies, identification and use of effective strategies in the classroom requires researchers answer questions concerning consistency and variability of strategy use. This paper presented an investigation of the use of reading strategies in technical and general texts. The results of our mixed-methods approach brought to attention the fact that reading strategy use of Iranian M.A. students did not vary significantly from general to technical passages.

Though scant, the results of this study may be beneficial to learners, and teachers, in general, and EAP learners, and teachers, in particular. The findings of the present study imply that power engineering students put into
practice more strategies when reading technical materials and physics students
employ more strategies when reading general materials.

As Oxford (2003, p. 2) highlights, when the learners consciously
choose strategies that fit their learning style and the L2 task at hand, these
“strategies become a useful toolkit for active, conscious, and purposeful self-
regulation of learning”. Strategy awareness is considered a necessity for
language learning to be effective (Macaro, 2006; Sheorey & Mokhtari, 2001).
Hence, the finding that power engineering students reacted more strategically
to general texts than to technical passages may imply that teachers had better
resort to more strategy awareness in technical materials with power
engineering students. Alternatively, the conclusion that physics students used
strategies more frequently when reading technical passages than when reading
general passages may advise teachers that more strategy use be practiced with
physics students for general texts.

Acknowledgements

Our sincere gratitude goes to Dr. Esmaeel Abdollahzadeh, Associate Professor
at the University of Exeter, and Dr. Omid Majd, Associate Professor at the
University of Tehran, for their informative comments.

References

clinical psychology: An introduction for students and practitioners.
Chichester: John Wiley & Sons.
White Plains, New York: Pearson Education.
speakers of other languages. Cambridge: Cambridge University Press.
Chamot, A. U. (1987). The learning strategies of ESL students. In A. Wenden,
& J. Rubin (Eds.), Learner strategies in language learning, (pp. 71-83).
Cambridge: Prentice-Hall.
Chamot, A. U. (2004). Issues in language learning strategy research and
language learners: A synthesis of five evaluations of the CALLA
model. In J. Cummins, & C. Davison (Eds.), The international
handbook of English language learning (pp. 317-331). Norwell, MA:
Springer.


پرسشنامه راهبردهای خواندن

هدف از این پرسشنامه جمع آوری اطلاعات درباره تکنیک‌های مختلفی است که شما در حین خواندن موتون مختلف به زبان انگلیسی استفاده می‌کنید.

تمامی عبارات، مربوط به خواندن و درک مطلب موتون می‌باشند. بعد از هر عبارت پنج گزینه شامل

الف. ب. ج. د. ه. وجود دارد که بدين صورت تعبیر می‌شوند:

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

ب. بندتر

ج. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمولاً

د. اغلب

ه. همیشه

الف. هرگز

ب. بندتر

ب. معمل...
الف. هر گز ب. بندتر ج. معلوما. ۱. اغلب ۵. همیشه.

۶. به این فکر می‌کنیم که این محتوای متن‌هایی با هدفی در خوادن مطالب دارد یا نه.

الف. هر گز ب. بندتر ج. معلوما. ۵. اغلب.

۷. به آرامی و با دقت می‌خوانیم تا مطمئن شویم آنچه را می‌خوانیم فهمم.

الف. هر گز ب. بندتر ج. معلوما. ۵. اغلب.

۸. متن‌هایی با اینجا به خصوصیات همجون طول و ساختار مور متن کن.

الف. هر گز ب. بندتر ج. معلوما. ۵. اغلب.

۹. وقتی که حواسم یا می‌خوریم، سعی می‌کنیم دوباره روی متن تمرکز کنیم.

الف. هر گز ب. بندتر ج. معلوما. ۵. اغلب.

۱۰. زیر نکات مهم خط می‌کنیم تا آنها را بخاطر سپارم.

الف. هر گز ب. بندتر ج. معلوما. ۵. اغلب.

۱۱. سرعت خواندنم را با توجه به آنچه می‌خوانیم تنظیم می‌دهم.

الف. هر گز ب. بندتر ج. معلوما. ۵. اغلب.

۱۲. هنگام خواندن، تصمیم می‌گیرم چه چیزی را بخوانم و چه چیزی را نادیده بگیرم.

الف. هر گز ب. بندتر ج. معلوما. ۵. اغلب.

۱۳. هنگام خواندن، از کتاب‌های مرجع همچون فرهنگ لغت استفاده می‌کنم تا به فهم بهتر متن کمک کند.

الف. هر گز ب. بندتر ج. معلوما. ۵. اغلب.

۱۴. وقتی که متن دشوار می‌شود، به آنچه می‌خوانم توجه بیشتری می‌کنم.

الف. هر گز ب. بندتر ج. معلوما. ۵. اغلب.

۱۵. از جداول، اشکال و عکس‌های موجود در متن برای فهم بیشتر کمک می‌گیرم.

الف. هر گز ب. بندتر ج. معلوما. ۵. اغلب.

۱۶. هر چیز که خواندم را متقف می‌کنم و به آنچه می‌خوانم فکر می‌کنم.

الف. هر گز ب. بندتر ج. معلوما. ۵. اغلب.

۱۷. از سرنوشتی موجود در متن استفاده می‌کنیم تا آنچه را می‌خوانم بهتر درک کنیم.

الف. هر گز ب. بندتر ج. معلوما. ۵. اغلب.

۱۸. مطالب ذکر شده در متن را به زبان خودم بیان می‌کنم تا بهتر آنها را درک کنم.

الف. هر گز ب. بندتر ج. معلوما. ۵. اغلب.

۱۹. سعی می‌کنم مطالب را مجموع کنم تا آنچه را می‌خوانم بهتر با خاطر بسپارم.

الف. هر گز ب. بندتر ج. معلوما. ۵. اغلب.

۲۰. از ویژگی‌های چاپی متن همچون پررنگ بودن و حروف کج برای یافتن نکات کلیدی استفاده می‌کنم.
A Triangulated Approach to Reading Strategy ...

الف. هرگز یا ب. بندرت ج. معمولاً 6. اغلب 5. همیشه

21. اطلاعات ارائه شده در متن را منتقله تحلیل و ارزیابی می‌کنیم.
الف. هرگز یا ب. بندرت ج. معمولاً 6. اغلب 5. همیشه

22. سعی می‌کنیم در متن به قبیل و بعد رجوع کنیم تا مطالب موجود را به هم ربط دهیم.
الف. هرگز یا ب. بندرت ج. معمولاً 6. اغلب 5. همیشه

23. وقتی که در متن با مطالب نوین مواجه می‌شوم میزان درک ها برسی می‌کنم.
الف. هرگز یا ب. بندرت ج. معمولاً 6. اغلب 5. همیشه

24. هنگام خواندن، سعی می‌کنیم مضمون متن را حس بزنیم.
الف. هرگز یا ب. بندرت ج. معمولاً 6. اغلب 5. همیشه

25. وقتی که متن دمرنگ می‌شود، آنا دوباره می‌خوانم تا درک بیشتر شود.
الف. هرگز یا ب. بندرت ج. معمولاً 6. اغلب 5. همیشه

26. هنگام خواندن، از کویر سوالاتی می‌پرسیم که مایلیم در متن پاسخ دهد بشود.
الف. هرگز یا ب. بندرت ج. معمولاً 6. اغلب 5. همیشه

27. درست یا اشتباه بودن حدس‌هایی در مورد متن را برسی می‌کنیم.
الف. هرگز یا ب. بندرت ج. معمولاً 6. اغلب 5. همیشه

28. هنگام خواندن، معنای کلمات و عبارات ناشنا را حدس می‌کنم.
الف. هرگز یا ب. بندرت ج. معمولاً 6. اغلب 5. همیشه

29. هنگام خواندن، متن انگلیسی را به زبان های ترجمه می‌آموزم.
الف. هرگز یا ب. بندرت ج. معمولاً 6. اغلب 5. همیشه

30. هنگام خواندن، هم به زبان انتاریسی و هم به زبان مادری، به مطالب فکری می‌کنم.
الف. هرگز یا ب. بندرت ج. معمولاً 6. اغلب 5. همیشه