An Inventory of Successful and Unsuccessful Strategies of Pre-Final Engineering Students Tackling a Cloze Test

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1. Introduction
The cloze test is a test where every nth word (usually fifth or seventh for a customary total of 50 blanks out of a 250-350 word text) is deleted from the text. The cloze test has been used for a wide variety of purposes: to measure reading ability, to measure writing ability, to measure general language proficiency, to relate the relative proficiency of bilingual speakers and to study the relative difficulty of different grammatical items in a text. The present study uses the cloze test as test of reading comprehension and analyses the learning strategies used by learners to tackle the same. It also presents a list of appropriate and inappropriate learning strategies used by learners to comprehend a cloze text.

2. Review of Literature
The following paragraphs present a condensed review of literature relevant to the present study, namely, cloze test and learning strategies. Learning strategies refer to operations employed by the learner, which help them in acquiring, storing and retrieving information. They can also refer to “…sets of operations, steps, plans, routines used by learners to facilitate obtaining, storage, retrieval and use of information” [1]. Certain alternative terms used in the place of strategies include tactics, cognitive abilities, functional skills, processing strategies, learning skills, consciously employed operations etc. Developments in cognitive psychology influenced the research on language learning strategies which began in 1960’s. The prime concern of all these researchers was on “identifying what good language learners report they do to learn a second or foreign language, or, in some cases, are observed during while learning a second or foreign language” [1]. According to Stern following are the five main language-learning strategies:

- Management and planning strategies.
- Cognitive strategies.

Abstract
The present study is aimed at studying the various strategies used by engineering students attempting a cloze test. A narrative text with 100 blanks was administered to a group of 52 prefinal engineering students. The students were given one-hour time to complete the task. Following the test, a group of students was selected at random and interviewed, and all the interviews were recorded. Select strategies used by the high scorers and low scorers have been identified, classified as appropriate and inappropriate and presented.

Keywords: Appropriate and Inappropriate Language Learning Strategies, Cloze Test

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3. Knowledge which is of three types:

1. Engagement, which means being really very attentive and spending sufficient time on the assignment.
2. Risk-taking, which is the ability to guess the meaning of unknown words, the ability to complete reading a text, the Willingness to answer the gaps, even though one may not be sure of their accuracy.
3. Knowledge which is of three types:
   a) Procedural
   b) Schemata (formal and content) and
   c) Linguistic knowledge
   d) Cognitive control [3].

All these factors at times work in combination and at times, they intersect as well. The subjects working on a cloze test should not only be able to understand the type of the text, but also make guesses about the grammatical structures and rhetorical conventions. Only this would help them form intersentential connections and produce vocabulary relevant to the topic. In addition to demonstrating a greater control over structures, learners should coordinate between form and meaning. Basically it is procedural knowledge that keeps readers attempting a cloze test. Comprehension takes place when all stored up knowledge and experiences interact.

While processing a new piece of information or while reading a text, all language learners use learning strategies, either consciously or unconsciously. While reading, or trying to comprehending a text, a reader employs many strategies such as reading, re-reading, linking a particular piece of information with something read earlier and so on. At the core of reading comprehension is the struggle and search for meaning. “Comprehension strategies indicate how readers conceive a task, what textual cues they attend to, how they make sense of what they read, and what they do when they do not understand” [4].

Though many studies have been conducted to find out what strategies learners use and to describe them, this study attempts to spot those specific strategies used by learners to tackle a cloze test. They have been classified as “appropriate” and “inappropriate” strategies - the former referring to those strategies which enable the respondents in achieving the task and the latter referring to those which prevented them getting the right answers. Efforts have also been made to compare and analyze the performance of good and poor scorers and a few interesting findings have been obtained.

The research questions formulated for the study are as follows:

- What are the strategies used by learners to comprehend a cloze test?
- How many strategies thus used enabled the learners to complete the task?

### 3. Design of the Experiment

The objective of the study, as stated earlier, is to identify the strategies used by learners and this has been done by presenting a retrospective account of the reading strategies used by a group of 30 prefinal mechanical engineering
students. These students were administered a cloze test, a narrative piece that contains 100 blanks. (See Appendix A). The exact scoring method was used for scoring purposes and the raw scores obtained are presented in Table 1. “R” refers to the respondents and the adjacent rows indicate the raw scores obtained by students.

As it can be observed from the table, there are certain tied ranks. With the middle score being 50, 7 respondents who had obtained scores below the midpoint and another 7 respondents who obtained scores above the midpoint were interviewed to find out what strategies were used by these respondents to attempt the task. The interviews did not follow any rigid structure, though the questions were focused to fathom the strategies used by the learners. The investigator uses the “qualitative” or “descriptive” method of analyzing the protocols (the transcribed reports on reading strategies that the subjects produced). Qualitative approaches to research include “ethnography”, “nonparticipant observation”, “participant observation”, “holistic ethnography” and so on and the descriptive method was chosen to allow researchers to make deeper analyses.

4. Analysis and Discussion

The following section is an analysis of a few protocols (presented in italics) from the interviews had with the students. The strategies used by the students (both appropriate and inappropriate) are mentioned below as part of the analysis. The researcher made no effort to correct the grammar of the students and the protocols are presented as they were heard and transcribed. For want of space, all the protocols which helped the researcher identify the strategies have not been presented. However, they are listed in Table 2.

S: I have not read such a big passage in one go…that was too much infact…: I Even before I could move from one word to the next, I was afraid, time will be over ..I lost interest reading the last para due to short time

This respondent, as revealed by him, reads very slowly with one eye on the clock. Also, he seems to read and understand each and every word, which is an inappropriate strategy as far as task achievement is concerned.

Though the cloze test demands paying attention to details, it is important that the reader reads in sense groups and understand the overall meaning of the passage and guards himself against getting distracted by particulars. This respondent has obviously not tried to understand the gist of the passage. He did not complete reading the text, which is an inappropriate strategy.

“I like the passage only some what...the title and some words were not very calling...inviting…. I couldn't understand most”.

The student respondent does not like the passage because he has not understood it. In such a situation, it is very natural for him to have stopped reading. Thus the student respondent uses the inappropriate strategy of allowing one's feelings to control one's willingness to continue reading.

R: Some answers for the beginning could be written after reading the whole passage. The more you read, the easier it is to understand. Many blanks I filled only after reading seven or eight times.

This student respondent reads and rereads the passage, and this has helped him in filling the blanks. Thus, this appears to be an appropriate reading strategy used by the student to fill in certain blanks.

O: Why did you choose “long” for blank 2?
R: Just guessed it

Making uneducated, baseless guesses is an inappropriate strategy. This student respondent probably has not been trained to stimulate her guessing through ample preview questions. She has failed to interrupt her guess and check for its base there, which has made her zero in on the wrong answer.

S: I got ”camp” finally only after reading the whole passage. I read the whole thing again for confirming the answer.

Confirming an answer after reading the whole passage is an appropriate strategy used here.

S: Because I was confident “that” was the right answer. No. “That” was right.
The student respondent is able to recall the correct grammatical structures. Thus, her grammatical knowledge is sufficiently good, though this failed to help her in the later part of the passage where she comes across more complex structures.

O: Why use “boarding” a truck?
S: Because usually it is boarding a train or bus.

Again, the student respondent arrives at this choice by false analogy i.e. if one can board a bus then one can board a truck too. Thus, he is not paying enough attention to the surrounding context, due to which the fact no truck is going to wait for the refugees to board eludes his understanding.

O: Why did you write “inspector” for blank 21?
S: Judy examined children. So wrote “inspector”.

Once again, the student respondent appears to have arrived at this choice by false analogy. She might have been prompted to arrive at this choice because of her experience with school inspectors. These inspectors examine students’ books and notebooks when they are on inspection.

O: How did you get “Sudanese”?
S: It is mentioned earlier.

Making use of clues and reference words preceding and following the blank is an appropriate strategy used here.

O: You have given the correct construction “put a high priority on”. Did you already know the structure?
S: Yes. I knew for sure that the preposition “on” was correct.

Ability to recall and use grammatical structures is an appropriate strategy used by this respondent

S: No. Sanitary facilities are commonly used.

The student respondent is aware of the typical collocations in these word contexts.

O: What were the words you thought would be correct for blank 90?
S: First thought of “black”, then “straight”. Since she is pouring into a measuring jug thought one “litre” would be right.

Apparently, here the student respondent seems to have done a lot of correct reasoning - making inappropriate guesses in the beginning, but has ended up with a correct guess and reasoning it out-an instance of appropriate strategy.

O: How did you get it as one litre?
S: She was measuring one packet correctly and this has to be mixed with a particular amount of water.

Again this student respondent reasons out correctly, taking into account the contextual clues-one packet and so she is able to reason it out as one litre, which is an appropriate strategy.

O: How did you write “give”? Tell me what are the other words you thought of? How did you arrive at this choice?
S: No I did not think of any other word. “Give” is more general. So I used it. “Feed” did not strike me at all.

Inability to identify the key word is an inappropriate strategy employed here by this student.

S: Yes I liked it. It is something about adventure. How health workers save the civilians. Different from the usual.

This shows that the student respondent is emotionally responding to the text (points the difference in theme). This also indicates that the student respondent is not exposed much to reading this kind of material.

O: How many times did you read it?
S: Only once.

This student respondent has read the passage only once, which is certainly not enough to understand the passage. A passage needs to be read many times at different levels (literal and inferential) for understanding.

O: Is the sentence grammatically ok? “The camp routine was varied”?
S: It is wrong. I did not try to connect it with the following lines.

The student respondent fails to look for grammatical correctness because he had perhaps missed the next word or ignored it because he was not paying enough attention. Hence, the tense is wrongly used. This is an inappropriate strategy.

O: Put a high priority “for”. Why use “for”?
S: I thought of “in” but finally used “for”.

The student respondent is unable to recall the correct grammatical structure, thus displaying a lack of insufficient linguistic knowledge.

S: I thought of “tank” and “canal” and got confused.

Again, the student respondent has failed to link what he reads with the content schemata. The student respondent must have stopped to review the material and link it with the content schemata. This is an inappropriate strategy.

S: With blanks 55 and 56, I was not sure of what to use. I did not want to leave anything blank. I just filled in something and did it….finish it…

This respondent has used wrong words because he does not want to leave anything blank i.e., the student respondent fills in the blank for the sake of filling it - an inappropriate strategy.
O: Why did you write “weeks”?  
S: I thought it was apt. They are caught in the midst of the desert. So, it might take them weeks to reach.

This respondent does not make use of extra-textual cues. He is not able to reason out that it is not possible for one to travel for weeks together in the desert.

O: Why did you choose “that” instead of “which”?  
S: I did not think that “that” and “which” make much difference in this context.

The student respondent is unable to recall the grammatical item because at this level, she must have been exposed to the difference between the relative pronouns “that” and “which” - that is, the first one is used with living beings and the second with non-living things.

O: How did you get “Sudanese”?  
S: It is mentioned earlier.

Making use of clues and reference words preceding and following the blank is an appropriate strategy used by this respondent.

S: Thought of words like “got”, “took”. Felt it was not apt. So, I finally used “board”.

In this case, the student respondent applies the inappropriate strategy of not filling in words by deducing from the surrounding context.

O: Why did you use “obvious” in blank 62?  
S: Used “obvious” in the sense of clear.

Inability to identify the key word “evident” is a problem with vocabulary.

O: Why did you choose yellow “water”?  
S: I thought of medicine, where all salts are dissolved in water.

Here the student respondent is not reading paying selective attention, which is an inappropriate strategy.

O: Why did you use “the” in blank (9)?  
S: Couldn’t find any other suitable word.

Many blanks are wrongly filled because she is not able to find suitable words.

O: How did you choose “entirely”?  
S: It suited the sentence. Looked only for that sentence to be grammatically correct did not look for meaning.

O: How did you find the passage to be?  
S: When read for the first time, could not form any clear idea. Some places very difficult to find the right word.

The only appropriate strategy used by this student respondent is making use of clues and references preceding and following the blank. This student appears to have a lot of problems with grammar and also with vocabulary.

The table in the next page (Table 2.) presents a few strategies used by students as presented in the analysis. This table includes both the appropriate and the inappropriate strategies. Interestingly, certain strategies such as emotionally responding to the text and recalling real-world schemata occurs in both the categories and offers sufficient thought on the impact of “affect” on the task achievement.

### 5. Conclusion

In summary, the analyses presented in the previous section offers a peep into the workings of various strategies by learners. However, the study does have certain limitations.
Firstly, the list of strategies reported here are by no means exhaustive. They are just a sample of whatever the researcher could decipher from the interviews she had with the respondents. Yet another limitation of the study is that mentalistic study of strategies is always a fuzzy area and it should also be remembered that many of these students must have used a lot of “hidden” or unconscious strategies. Most respondents found the task to be difficult and challenging one and it naturally follows that they must have used a lot of strategies. However, only those that were consciously revealed have been mentioned. The other unconscious or “hidden” strategies are very difficult for an observer to discover and analyse. This is the problem faced by any researcher trying to analyse strategies. Generally, observation scales miss the mentalistic strategies. Choosing correct observation scales and forming one’s own observation form by making a list of important strategies, which one thinks are important and used often, can yield more information. Thunk aloud interviews, semi-structured interviews, self report surveys, diaries and journals and selected combinations of the above-mentioned tools could provide deeper insights into the strategies deployed. Also, the sample is not representative of the entire population of engineering students attempting a cloze test. Lastly, the use of the term “appropriate” and “inappropriate” does echo a certain degree of subjectivity and judgment. However, the researcher has used the term for want of suitable technical equivalents in literature.

6. Works Cited

Other References

Appendix A

Name of the Test-Taker :
Batch :
Date :
Start Time :
Finish Time :

Instructions
Read the entire passage carefully before filling in the blanks. If you are not sure of a word, do not be afraid to guess the word. When you guess check whether the work fits the overall sense of the passage as well as the sentence in which it occurs. There are 100 blanks in this passage. Each blank has to be filled in with one word. You have about 100 minutes for filling up the blanks. Use a ball pen or ink pen to write the answers. Do not use a pencil. Write legibly.

Judy examined Amaresh and shook her head in wonder and frustration. It had taken Amaresh (1) _________ her three children (2) __________ to make the terrifying (3) __________ from their Ethiopian village (4) __________ Tigre to the refugee (5) ________ in the desert across (6) __________ Sudanese border. They had (7) __________ the whole way, hiding (8) __________ the day and traveling (9) ________ at night to avoid (10) ________ bombs and bullets of (11) ________ Ethiopian military planes. They (12) ________ their journey with only (13) ________ small amount of food, (14) ________ had been used up (15) ________ before they reached the (16) ________ border.

The trucks they (17) ________ at the border took (18) ________ directly to the refugee (19) ________. Judy, as one of (20) ________ camp’s volunteer health (21) ________, had examined many such (22) ________ as they arrived weak (23) ________ starvation and fatigue. She (24) ________ Amaresh’s two youngest children (25) ________ a special feeding program (26) ________ combat their severe malnutrition (27) ________ then showed the family (28) ________ new home - a single 10 (29) ________ by 10 foot tent (30) ________ already housed 15 of (31) ________ relatives.

The camp routine (32) ________ varied. Each day Amaresh (33) ________ to collect her family’s (34) ________ of raw wheat, beans (35) ________ cooking oil. She mixed (36) ________ together and boiled them (37) ________ the blackish - green water drawn (38) ________ the camp’s water tanks. (39) ________ recently water had been (40) ________ directly from a nearby (41) ________ canal, and diarrhea had (42) ________ rampant in the camp. (43) ________,
many of the refugees (44) ________ this water were so (45) ________ by malnutrition that even (46) ________ simple diarrhea was life threatening - (47) ________ for the children and (48) ________ elderly. The health workers (49) ________ put a high priority (50) ________ construction of the water (51) ________ which allowed the canal (52) ________ to be chlorinated and (53) ________ settle before being used in (54) ________ camp. The water was (55) ________ the only source (56) ________ of ________ for the health workers. (57) ________ camp had no sanitary (58) ________. All of the camp's 12,000 (59) ________ used the open field (60) ________ to the camp, when (64) ________ fierce sandstorm destroyed most (65) ________ the tents and the (66) ________ water system. The only (67) ________ water that pumped (68) ________ from the canal, without (69) ________ chlorination or settling. By (70) ________ next morning, with the (71) ________ rising to 110 degrees F, everyone (72) ________ the camp was suffering (73) ________ terrible diarrhea. Judy was (74) ________ surprised when Amaresh came (75) ________ her that evening carrying (76) ________ youngest son. He was (77) ________ pale and unresponsive and (78) ________ obviously suffering from severe (79) ________ from his diarrhea. Since (80) ________ were no antibiotics available, (81) ________ gave Amaresh a yellow (82) ________ jug and several small (83) ________ packets containing oral dehydration (84) ________ (ORS). Judy instructed Amaresh to (85) ________ the white powder from (86) ________ packet into the jug (87) ________ then to fill the (88) ________ with chlorinated water up (89) ________ a clearly marked one (90) ________ line. She was to (91) ________ as much of this (92) ________ to her children as (93) ________ could drink. Judy predicted (94) ________ the children would be (95) ________ playing with their friends (96) ________ only a few days. (97)_______ oral rehydration salts that (98) ________ distributed have become almost (99) ________ miracle treatment for refugees (100) ________ from dehydration caused by diarrhea. It was remarkable that in the six weeks Judy had worked at the camp not one child had died from dehydration with diarrhea!

Thank you for Attempting this Test!

Table 3. Key (score using the exact word method: will not discriminate between any two almost equally language proficient candidates)

<table>
<thead>
<tr>
<th>1. and</th>
<th>2. workers</th>
<th>3. irrigation</th>
<th>4. danger</th>
<th>5. she</th>
</tr>
</thead>
<tbody>
<tr>
<td>21.</td>
<td>41.</td>
<td>61.</td>
<td>81.</td>
<td></td>
</tr>
<tr>
<td>2. days</td>
<td>22. families</td>
<td>42. been</td>
<td>62. obvious</td>
<td>82. plastic</td>
</tr>
<tr>
<td>3. journey</td>
<td>23. with</td>
<td>43. unfortunately</td>
<td>63. arrival</td>
<td>83. sealed</td>
</tr>
<tr>
<td>4. in</td>
<td>24. assigned</td>
<td>44. drinking</td>
<td>64. a</td>
<td>84. salts</td>
</tr>
<tr>
<td>5. camp</td>
<td>25. to</td>
<td>45. weakened</td>
<td>65. of</td>
<td>85. pour</td>
</tr>
<tr>
<td>6. the</td>
<td>26. to</td>
<td>46. such</td>
<td>66. camp’s</td>
<td>86. a</td>
</tr>
<tr>
<td>7. walked</td>
<td>27. and</td>
<td>47. especially</td>
<td>67. available</td>
<td>87. and</td>
</tr>
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<td>8. during</td>
<td>28. their foot</td>
<td>48. the</td>
<td>68. directly</td>
<td>88. jug</td>
</tr>
<tr>
<td>9. only</td>
<td>29. that</td>
<td>49. had</td>
<td>69. any</td>
<td>89. to</td>
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<td>10. the</td>
<td>30. their</td>
<td>50. on</td>
<td>70. the</td>
<td>90. litre/liter</td>
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<tr>
<td>11. the</td>
<td>31. never</td>
<td>51. tanks</td>
<td>71. temperature</td>
<td>91. feed</td>
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<td>12. started</td>
<td>32. went</td>
<td>52. water</td>
<td>72. in</td>
<td>92. drink</td>
</tr>
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<td>33. allotment</td>
<td>53. to</td>
<td>73. from</td>
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<tr>
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<td>98. Judy</td>
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<td>39. until</td>
<td>59. refugees</td>
<td>79. dehydration</td>
<td>99. A</td>
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<td>60. next</td>
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