

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

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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

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.

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- Communicative-Experiential Strategies.
- Interpersonal Strategies.
- Affective Strategies.

Rebecca Oxford defines learning strategies as “specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferable to new situations” [2]. The following are certain broad classifications of strategies as presented by Rebecca Oxford. Certain strategies are directly involved in the process of language learning and they are known as *direct strategies*. These direct strategies can be divided into three groups: *memory strategies*, *cognitive strategies* and *compensation strategies*. *Memory strategies* are those strategies that help learners store and retrieve the material whenever needed. E.g.: grouping. *Cognitive strategies* are those strategies that help learners to understand and produce new language by different means. E.g.: Summarizing, analyzing, reasoning etc. *Compensation strategies* help learners to use language though certain knowledge gaps exist in the system of learners. E.g.: Guessing intelligently. Studies on learning strategies have always been a fertile area of research yielding interesting, complex and contradictory results every time.

A cloze test, being a mutilated text, poses a considerable level of challenge to learners. This is because restoring the deletions in such a mutilated text involves both lower-order and higher-order comprehension skills such as grasping the syntax and word meaning and collocations, identifying tone, following anaphoric and anaphoric references, understanding intersentential relationships and so on. Cloze test, by virtue of its robust nature, is also considered to be an integrative measure of second language proficiency. While tackling a cloze test, the reader has to make use of syntactic and semantic knowledge, and this is fundamental to comprehension. A lot of other intellectual processes like imagining, reasoning, reviewing judging, and problem solving are also essential to any reading task are also involved in attacking a cloze test. A cloze passage makes a lot of demands on the test taker and the most important of them are:

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”, “non-participant 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

Table 1.

R1	80	R16	25
R2	75	R17	82
R3	16	R18	76
R4	23	R19	64
R5	34	R20	65
R6	43	R21	66
R7	52	R22	56
R8	34	R23	70
R9	62	R24	33
R10	11	R25	72
R11	54	R26	17
R12	73	R27	22
R13	12	R28	81
R14	62	R29	71
R15	62	R30	54

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.

Table 2. Appropriate and Inappropriate Strategies

Appropriate strategies	Inappropriate strategies
1. Making use of real world schemata and clues and reference words preceding and following the blank - an awareness of anaphoric and cataphoric references.	1. Employing false analogy (which might not work with context-specific texts).
2. Filling the easier blanks first i.e. focus on task completion.	2. Making uneducated, baseless guesses, overlooking linguistic and contextual cues.
3. Reading and rereading the passage many times for understanding.	3. Failing to tap the content schemata.
4. Reading the second half of the passage to fill in the blanks in the first half - making use of intersentential cues and discursal conventions.	4. Ignoring the extra-textual and linguistic clues.
5. Ability to remember references occurring earlier in the text.	5. Skipping a few lines and sentences while reading.
6. Confirming an answer after reading the whole passage.	6. Using wrong words in the blanks just for the sake of filling them up.
7. Making educated guesses.	7. Ignoring the purpose of reading - Reading without giving in-depth attention.
8. Reasoning out the correct answer (which would serve as a compensation strategy when the required linguistic knowledge is not present).	8. Responding to the text emotionally.
9. Responding to the text emotionally.	9. Failing to pay selective attention.

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. Think-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

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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 was 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)

1. and	21. workers	41. irrigation	61. danger	81. she
2. days	22. families	42. been	62. obvious	82. plastic
3. journey	23. with	43. unfortunately	63. arrival	83. sealed
4. in	24. assigned	44. drinking	64. a	84. salts
5. camp	25. to	45. weakened	65. of	85. pour
6. the	26. to	46. such	66. camp's	86. a
7. walked	27. and	47. especially	67. available	87. and
8. during	28. their foot	48. the	68. directly	88. jug
9. only	29. that	49. had	69. any	89. to
10. the	30. their	50. on	70. the	90. litre/liter
11. the	31. never	51. tanks	71. temperature	91. feed
12. started	32. went	52. water	72. in	92. drink
13. a	33. allotment	53. to	73. from	93. they
14. which	34. allotment	54. the	74. not	94. that
15. long	35. and	55. not	75. to	95. out
16. sudanese	36. these	56. worry	76. her	96. in
17. met	37. in	57. the	77. very	97. the
18. them	38. from	58. facilities	78. was	98. Judy
19. camp	39. until	59. refugees	79. dehydration	99. A
20. the	40. taken	60. next	80. there	100. suffering