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Cognitive Discourse Analysis of L2 Writer's 'Think-Aloud Protocol: A Case Study

Ghulam Haider

Abstract

The aim of this qualitative study is to uncover the composing processes of a male Pakistani student writer tentatively with the help of cognitive discourse analysis. The study qualitatively analyzed the verbal transcripts to come to the tentative conclusions about the writing behaviors of the L2 student. An analysis of the participant's writing think-aloud protocol verbalized data show that writing is a recursive process. The writer applies different meta-cognitive, cognitive, social and affective strategies in a recursive pattern while writing.

Key Words

Writing Processes, Cognitive Discourse Analysis, ESL Teaching of Writing

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Cognitive Discourse Analysis of L2 Writer's 'Think-Aloud Protocol: A Case Study

1. Introduction

Writing is a complex process. According to Flower and Hayes (1980a, pp.31-33), in order to write, people must perform a number of mental operations: “they must plan generate, knowledge, translate it into speech, and edit what they have written ... a writer caught in the act looks much more like a very busy switchboard operator to juggle a number of demands on her attention and constraints on what she can do.” This statement vividly elaborates that writing involves some distinctive cognitive processes that enable the writers to write.

Janet Emig's (1971) finding that writing is as a recursive process invoked the researcher to focus on process orientation in writing for example;(Flower & Hayes, 1980, 1981;Humes, 1983;Cumming, 1989; Flower et al., 1990; Hudelson, 1989; Lauer and Asher, 1988; Raimes, 1985; Zamel, 1983, 1987) .

Writing Processes

Process of writing has been defined in various ways by the researchers, for example; Cohen (1988) describes “process is a strategy that is consciously selected by the individuals and that can enhance the use of the second or foreign language, through retention and recall of information regarding language.” Rubin (1981) says when the learners use type or operations to acquire, store, retrieve and use information this is called a process. Stern (1983) says process is the name of tendencies or overall characteristics that the learners of language apply, and it is an observable learning behavior that is consciously used by a learner.

During the activity of writing all those actions and behaviours that facilitate writers to solve a problem are called processes or strategies, says Shapiro and Lazarowitz (2005). According to Shapiro and Lazarowitz (2005). The above stated actions are categorized as:

Meta-cognitive, cognitive, social and affective processes. The researcher has built up the theoretical frame work of this present study on these four processes. According to the researcher these four processes are the helping tools that help the writers in planning, translating ideas drifting i.e., actual writing and organization of the produced or written text. The role of these processes helps overcoming all those difficulties which are generally faced by the student writers including, anxiety, fear and a sense of depression while writing.

Meta Cognitive Processes

Writing is a complex process and a variety of processes entail it (Cohen and Dornyei, 2002; Chantot, 1987; Oxford 1990 and Shapira and Lazarowitz, 2005) during the activity of writing the process of planning, and self-awareness of the writers that motivates them during writing are named as meta-cognitive processes. According to Schmitt (2002, cited in Khalid, 2011) meta-cognitive processes are the conscious awareness of the writer about their task. Self-management, the ability for planning, monitoring and revising or the adequate conscious control over the process of writing is called Meta cognitive processes. According to Ehrman, Learning and Oxford (2003 cited in Khalid 2011) following are the examples of meta-cognitive processes: process of planning, process of goal setting, teachings for the process of writing, focusing, use of as adequate schemata, process of monitoring the of task, judgment about the completion of the task and a search for actual practice.

Cognitive Processes

The processes that help the writers to process and translate information are called cognitive processes. According to McCrindle and Christensen (1995) cognitive processes with the help of effective use of language enable the writer to write. Oxford (1990, cited in Khalid, 2011) asserts that cognitive processes help the writers organize information, read the

produced text aloud, analyse the produced text, summarize the written expression and give a logical explanation. There are three types of cognitive processes: process of organization of the text, this process creates cohesion in the produced text, processes of rehearsing; those processes consist of re-reading and repetition of ideas, the processes of elaboration that work as a bridge between the previously produced ideas and currently produced ideas (McCrindle and Christensen, 1995).

Social Processes

These processes make the writers aware of audience or readers. How to communicate a meaningful message to the readers? How the difficulties of complex communication of purposeful message can be controlled or overcome? In these processes, the writers ask questions about the purposeful communication of ideas, collaboration with peers for the accomplishment of a task, and request to the members of community for the revision of produced text. Shapira and Lazarowitz (2005) name those processes as interactions between writers and audience, thus these processes help in thinking, drafting and improving the overall process of writing.

Affective Processes

According to Cohen and Dorneyi (2002) while writing, a writer has to face, sometime, anxiety and depression, the affective processes help the writers to reduce and regulate such emotions, motivations and attitudes. These processes have both positive and negative influence on the process of writing. According to Shapira and Lazarowitz (2005 cited in Khalid, 2011) negative influence of those processes includes: avoidance, passiveness, lack of concentration and indifference to the process of writing. On the contrary, positive influence of these processes pertain, an effective overcome on anxiety, taking deep breaths, meditation

listening to music, laughing and self-pressing or rewarding. This is a very common habit of students in regular classes that they try to relax themselves by winking and beckoning to other class fellows.

According to Khalid (2011) both of affective and social processes are also called as compensatory processes that help the writers to overcome difficulties of boredom, fatigue etc. the writers listen to music, eat some food item or indulge in some recreational activity as a *passé*.

In Pakistan, Academic discourse analysts (Alvi & Baseer, 2012; Alvi & Baseer, 2011 and Naz, Alvi, & Baseer, 2012) have focussed on the linguistic structures of the language. They have worked on a more formal, grammatical, stylistic, syntactic and semantic analysis.

Cognitive Discourse Analysis: Theoretical Underpinnings

Text and talk do not exist in isolation (A. Van Dijk, 2000) they both exist in a context that consists of education of the participants, political and religious ideology of the participants, communicative, social and professional roles of the participants, the existence of power and authority between participants and various aspects of time and location as a context of setting. The term context cannot be narrowed down to the aforesaid domains or other social or interactional properties of communicative event rather the cognitive processes such as ; the aims behind the discourse, beliefs behind the production of discourse certain knowledge and set of opinions behind the production of discourse are also be named as context (A. Van Dijk, 2000). Thus narrowing down context to only social or power relation will limit its importance. Thus a cognitive analysis is an analysis of those properties of discourse that are accounted for in terms of cognitive concepts such as various types of mental representations (A. Van Dijk, 2000).

Discourse Analysis: Theoretical Underpinnings

There are four major assumptions behind discourse analysis:

1. There are some rules and internal structures that constitute a human discourse.
2. The discourse of a speaker, who is member of a community, is shaped by cultural, political, economic, social and personal realities.
3. Discourse reflects human experience and at the same time, constitutes important features of that experience. (Gee, Michaels and G. Connor, 1992).

Gee et.al. (1992) describes there are two different research stances of discourse studies for educational research: one focuses on the objectivity of the discourse, second stresses upon the social, cognitive, political and cultural aspects of discourse. The former deals with the form, meaning, and structural functions of a sentence. The latter stance focuses on social, cognitive, cultural, political and psychological processes. Life with its complex and abstract aspects is sometimes beyond quantifiable measures and a talk provides a deeper insight into these aspects.

In 1980s social power exploitation, power, authority and inequality were critically studied via the text and told stories in the social and political perspective. This type of research was named Critical Discourse Analysis. Conversation is not mere a structure of sentences or symbols. It has more than words, a sea of various meanings that it contains but we always have to make effort to dive into this sea and bring the meanings up to surface---our knowledge and experiences. Challenging the orthodoxies is like an adventure that demands an insightful interpretive skill. So does the critical discourse analysis, Van Dijk (1985) says, critical discourse analysis owns the responsibility to expose and ultimately erects

barriers against social inequalities. Until we understand what the people talk, what the people say and what experiences they wish to talk about, it seems impossible to realize the power of discourse. Discourse is a powerful phenomenon that requires to be interpreted in a social context where it has been occurred.

A few researchers and practitioners have applied it for developing their theses across Pakistan. In Pakistan it is comparatively, a new field of study. The list of researchers who have worked in this field in Pakistan does not go beyond a few studies. A few studies own their place in some linguistic journals.

Thus instead of analyzing abstract structures of language I have made an effort to provide a non static, concrete, dynamic account of ongoing cognitive processes that are involved in writing of the L2 students. This paper aims at providing insights into the generalisable cognitive processes that are not generally exercised by the writers consciously and such patterns of linguistic context that are not directly observable.

According to Chafe(1998) patterns in language are systematically related to pattern of thoughts. Language used by the writers reflects the presence of some distinctive cognitive processes that are not observable directly in the discourse. The writers and writing teachers are not usually aware of the presence or role of these processes in the produced text. The present study can help teachers and students activating these cognitive processes effectively while writing and understanding the written texts.

Tenbrink and Freask(2009) claim that there are some networks of options for the writers. These networks provide them a variety of linguistic choices. These choices are vast in nature and are useful for the generation of ideas. Van Dijk (2008) has also acknowledged the relationship between some certain linguistic features such as; the verbal representation of

semantic domains that are reflected in ideational networks, specific choices of prepositions, hesitation, lexical omissions and elaborations, conceptual perspectives revealed by language, presuppositions, discourse markers and cognitive processing. Drawing on the above mentioned evidences of cognitive processes in discourse the present study aims at identifying the presence of some distinctive cognitive processes in the discourse produced by an O LEVELS student, tentatively.

Methodology

The participant of this study was an O LEVELS student with Biology as a major subject. He was selected for this study because he had won an essay writing competition that was held in the institute and also won a prize of RS-5000/- in this contest. So he is assumed to be a proficient writer. He could be an exemplary case for L2 writers.

Data Collection

Think aloud protocol was used as a data collection tool. I asked Ali to aloud write an essay on the topic of *An Unforgettable Day of My Life* .this topic was similar to the assignments he usually received in his English course.

Data Analysis

The verbal data were transcribed and coded for analysis. For the coding of this transcript coding scheme developed by Wong (2005) and Wang (2004) were adopted.

Code	Description
.	<i>Short pauses lesser than a minute</i>
..	<i>Pause less than two minute</i>
...	<i>Long pause more than two minutes</i>
QG	<i>Question to generate text</i>
-A	<i>Negative self-assessment</i>
E	<i>Editin operations</i>

<i>ESP</i>	<i>Editing-spelling errors</i>
<i>RVWC</i>	<i>Revising operation-word choice</i>
<i>PL</i>	<i>Planning</i>
<i>HE</i>	<i>Hesitation</i>
<i>EV</i>	<i>Evaluation</i>
<i>QC</i>	<i>Question to check text</i>
<i>RS2</i>	<i>Rereading two or more sentences</i>
<i>RS1</i>	<i>Reading the topic assignment</i>
<i>RR</i>	<i>Reading what has been written</i>
<i>ED</i>	<i>Editing-deletion</i>
<i>PUNC</i>	<i>Punctuation</i>

Coding scheme developed by Wong (2005) and Wang (2004).

Results and Discussion

Ali the participant of this study applied different writing strategies during writing. The protocol suggests that Ali was certain about his assignment or task. He was also certain about the purpose of his task and what was expected of him. He spent almost one hour and ten minutes writing in English. He produced only one draft of 02 pages, 551 words, 2957 characters, 51 paragraphs and 64 lines. He read the topic before writing. He repeated the topic aloud again and again.

Ali used the process of planning to decide what he will write next, how he will proceed, what to say and how to say. At the stage of pre writing he frequently asked himself about what to say next. He did not use global planning rather he used local planning to proceed. He repeatedly commented on his topic and process. He paused many times for deciding what is to say next. Even during these pauses he indulged himself in local planning. He was applying all of the processes in a recursive pattern. (Flower and Hayes,1981). Ali repeatedly asked him questions to focus on his topic, he could not succeed to control himself

from digression. He did not frequently plan about the organization of the content. The protocol data show that he was concerned to mere the generation of ideas.

One of the major findings in this study is that the writer has applied all of the strategies in a recursive pattern. This finding is consistent with other past research findings by Raimes (1985, 1987), Zamel (1983) and Flower & Hayes (1980). What these findings and this study recommend is that writing is not a linear process which involves usually the planning first, drafting and ending with revising process but writing is more like writers engaging in the rehearsing, transcribing, rereading, revising process in a cyclical or recursive pattern. Therefore the research shows that writing is not best taught as a linear, in order set of skills but as a process of steady decisions of what skilled writers do: a cycling and recycling of learning processes. Composition is not something that should hang around until all the basic, necessary skills are learned, but can be introduced even to novices. Moreover, instructors cannot treat writing as a neat, linear process: on Monday we plan, on Tuesday we draft, and on Wednesday we respond to drafts (Dyson & Freedman, 1991).

Writing would no longer be perceived as an unreceptive assignment of just ‘filling up’ the paper with words; instead it should be taken as a problem-solving assignment with clear goals. If our writing curricula are to encourage the development of goal-oriented problem-solving skills, instructors need to admit that students will learn at different rates and in different styles.

Instructors need to find ways to encourage them to decide on their own topics and purposes for writing and to see one another as resources. On the contrary, writing should not be taken in person but more as a social interactive task. Mechanics such as spelling, handwriting, and grammar need to be taught not in isolation but along with the higher-level processes of learning so that these tools are applied to the production of meaning.

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Students should be taught how to come over writing constraints of sentence formation etc; instead meaning should be the major focus. Instructors also need to understand the role of knowledge-telling and narrative writing as a precursor to the kinds of knowledge-transforming writing required of essay tests. Students have the ability, the need, and the right to be more than simply consumers of other people's words.

The challenge of instructors of writing is to move beyond seeing writing as simply another skill. The application of recent research on writing can give us valuable tools to help these students to become creators of language to make words their own.

The key to produce a good essay here seems to rely on the types, the amount of strategies, how the students regulated the strategies to write either in generating of ideas or revising what was written. However it is important that generalization cannot be made from the findings of this study about the writing strategies used by students or the difference in the strategies used between the skilled and the unskilled students as the number of subjects here is only limited to one which is a small number.

Furthermore the definition of skilled and unskilled students could be refined further or could have a total different definition in other similar studies. Another limitation of the study would be the reliability of the think aloud protocols. There would be chances where the students' cognitive activities were not reported especially the unskilled ones who frequently paused and kept silent.

However, think aloud protocols have been used extensively in research and were found to be a "valuable and thoroughly reliable source of information about cognitive processes" (p. 247) (Ericsson & Simon, 1980). Moreover protocol analysis can be adopted as a teaching tool. Raimes (1985) used the Think Aloud Protocol to show teachers that it is a

technique that they can use in the classroom with their students in order to find out how students enact the process of writing and in that way to help their students to improve their ability to write.

As Raimes asserted, "... think-aloud composing for ESL composition research ... can be applied... to generate words, sentences, and chunks of discourse and to communicate in the new language." (P.251-252). If attention given to process can enhance it and if the ability to monitor the process of one's writing is indeed a major component of writing skill, as Flower and Hayes (1980b) believe, then protocol analysis could be a valuable aid for writers to diagnose their own weaknesses and develop the evaluative skills on what it takes to produce successful texts. Furthermore, since it is by far the only method of looking into the process of composing as it is happening and easily replicable in all kinds of classroom settings, it could be invaluable as a means of demonstrating to writers the truth about the composing activity, dispelling the notion of linearity, and revealing the essentially generative nature of the act of writing.

On another note, this study could be replicated in other or wider context in investigation of writing strategies of ESL or EFL writers. The methodology employed here by no means complete but it could be adopted and adapted as one of the ways to do similar study.

Conclusion

This study has provided some practical insights into the writing processes of a L2 writer in real conditions in Pakistan. Its findings can help ESL Teachers and students developing and understanding important writing strategies that can enhance writing skills of L2 Writers in a totally different context. The study has made a little contribution in the

research of writing processes using cognitive discourse analysis and think aloud protocol as data collection tools. I hope this study will prove an initiation in this area in Pakistan. Teaching of writing in Pakistan is a struggling area and demands more attention. Considering the cultural differences in Pakistani student writers and Native writers of English this study can better provide a guide line for the development of an effective curriculum for teaching of writing in Pakistan.

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PPENDIX A

Verbal Report:

Syed Ali Abbas(PseudoName)

AN UNFORGETTABLE DAY OF MY LIFE

1. I have to first memorize some moments of my life
2. and then I would decide which one would I chose for my topic [PAUSE].
3. I worked hard to record my speech but unfortunately, I was unable to do that.
4. I should now concentrate on this topic and should forget the previous one. [PAUSE]
5. Which incident of my life should I choose ????????
6. And of which year???? [PAUSE]
7. Should it be real or imaginative?
8. I think real would help me write good.
9. My first day in Unique?????
10. No it's not too special or unforgettable.
11. Fare well party at Beacon House??
12. That's better one.
13. I should recall some of these incidents like parties and functions.

14. Funfair in the Beacon House in 2004?
15. That is Ok sent...
16. What about, Fun Fair in Beaconhouse when I was in Class 6, may be 2006.
17. That's good.
18. I have many points relating to that.
19. My science project, English project, duty at the science and English corner, McDonald's in our School, some unusual questions that I did with the students who made their projects to tackle them, I called many parents to my stall [PAUSE].
20. I should now start writing. [PAUSE]
21. First of all a good introductory paragraph,,,,,
22. And that should be a good one.
23. What happened to Talha??? [PAUSE]
24. Ok leave them.
25. My Maths work- I am scared because of my incomplete homework-
26. Oh God save me!!!!
27. The Match that I played yesterday...
28. leave this and concentrate on the topic [PAUSE]
29. Faiz is asking the English for a word and constantly everyone is speaking and that is irritating me.
30. Ok introductory paragraph [PAUSE]
31. What should I do it to make it unique???
32. [PAUSE]
33. There are many Cradler moments of life but some are very special life the funfair party that was held in my precious school, Beaconhouse School System, in 2006.
34. That remembers me of Humza, my best friend of Beacon House.
35. The lunch we shared and...
36. Sir Shahid Mubeen. Uff!!!! Again homework- OH My God? Plz save me!!! Well good to hear about the holiday tomorrow.
37. Ok! Back to the topic as Sir Agha is instantly saying, "Don't look at the board", think and recite.
38. Ok [PAUSE]
39. The Funfair party.
40. I should first write how did this party took place. [PAUSE]
41. My old principal, Miss Azra Mujib, this remembers me of her being Gold headed and students making fun of her.
42. Ok-As 5 minutes are left
43. I should concentrate on my topic rather than discussing other several things.
44. Well our principal was not allowing us for the party.
45. Am I writing perfect and correct English?
46. Should check the sentence again. [PAUSE]
47. It looks Ok! The sentence-----
48. So she was not allowing for a funfair party so our student council gathered. (4 minutes left—increase your speed Ali!)
49. So the student council went to her and demanded for a party but she refused then they went to the vice principal 3 minutes left—Oh God!!
50. OK—the student council then went.....

Summary of the Verbal Report

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Pages	Words	Characters	Paragraphs	Lines
04(Approximate)	551(Approximate)	2957(Approximate)	51(Approximate)	64(Approximate)

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