

WRITING STRATEGIES OF MALAYSIAN ESL UNDERGRADUATE ENGINEERING LEARNERS

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One of the most significant factors that affect the performance of learners with learning a second language is difficulty with written skill. This paper reveals a study conducted as a qualitative research to analyze the written product as well as writing strategies of four ESL Malay undergraduate engineering students of a local private university used while completing a writing task. Specifically the study aimed to address the following research questions : 1) What are the writing strategies used by four ESL Malay undergraduate engineering students when they write composition in English? 2) Are there any differences between the writing strategies used by good ESL students to those used by the weaker ones? Think-aloud protocols, written essays, post-session interviews and audiotapes were used to examine the writing processes and strategies of two groups of students, two students in each group of good and weak learners. The think-aloud and interview protocols were transcribed verbatim for analysis. Analyses of the findings revealed that the two groups of students shared common writing strategies mainly cognitive strategies to generate ideas for their essay. Metacognitive and Social strategies were also used to aid in generating of ideas and searching for correct words or expressions. The strategies were used in combination and in a recursive manner to attain certain goals in their writing. The difference in the strategy use between the two groups of good and weak students lies in the amount of strategies being used, reason for the use and how the students regulated the strategies to solve problems concerning the writing task.

***Index Terms*—Writing strategies, cognitive, metacognitive, social, skilled learners, unskilled learners**

I. INTRODUCTION

The teaching of writing to ESL learners in Malaysia from primary to tertiary level, by large, is still embracing the Contrastive Rhetoric theory (Kaplan, 1966) where the central concern is the logical construction and arrangement of discourse. A direct translation of this observation would be the content of the national textbooks or reference books for English Language used in schools, colleges and even universities. One would discover that the elements of topic sentences, support sentences, concluding sentences and transitions as well as various choices of its development such

as illustration, exemplification, comparison, contrast, partition, classification, definition, causal analysis which are attended in this theory (Chongjun, 2005; Silva, 1990), are upheld as a common or even as standard guidelines to teaching and learning writing. In other words, the conception that writing is done in linear stages is adopted. This is despite numerous studies on writing especially since the 1970's (Emig, 1971) which have been challenging this conception where writing is seen as a recursive process. Second language research on writing strategies refers to the comparison between experienced writers' writing behavior and inexperienced writers, difference in writing behaviors in first and second language writing, use of first language in second language writing, and also on writers' perception about writing tasks (Petric and Czarl, 2003). For example, a study reveals that

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more experienced Japanese academic writers differs from their junior counterparts in “language-oriented” writing strategies which they employed to achieve native-like fluency in their writing (Okamura, 2006).

Among the studies, Flower and Hayes’s model (1981) and Bereiter and Scadarmalia’s model (1987) have been frequently cited in English composition studies as they directly shaped writing researches of L2 learners. Flowers and Hayes (1981), by examining and comparing the actual processes in which both novice and professional writers engaged, developed a recursive writing model based on cognitive psychology which consist of three elements: planning, translating, and reviewing. However, Bereiter and Scadamalia (1987) criticized the model for its methodology which relied solely on protocol data and for its inability to distinguish between skilled and unskilled writers. Bereiter and Scadamalia (1987), therefore proposed two models: knowledge-telling model and the knowledge-transforming model which not only modeled the writers’ composing behaviour but offered further explanation on the composing behaviour that distinguished skilled writers to unskilled ones. They theorized that novice writers employed knowledge-telling model which involves task execution model without complex problem-solving activities and revised only at local level while skilled writers did global revision which involved transformation of information. However, Flowers and Hayes (1994) argued that Bereiter and Scadamalia’s theory is purely cognitive in nature and seems to ignore the social factors involved in writing. Another pertinent point that surfaced from their argument is that Bereiter and Scadarmalia’s model do not clearly indicate when an unskilled writer can progress or develop his writing skills from knowledge telling to knowledge transformation in the process of writing. Other studies which offers explicit model in attempts to describe writers’ actual process of writing and the way writers generate text are conducted by Kellogg (1996), Field (2004) and Eysenack and Keane (2005). However there is still a large gap in L2 cognitive theory and most of the studies till present mainly refer to Hayes and Flower’s model as criterion in exploring L2 writing (Shaw & Weir 2007 in Chien, 2008).

Literature also revealed other inconsistent findings with respect to skilled and unskilled L2 writers. For Example, Zamel (1983) in his study on ESL students reported that unlike unskilled learners, skilled learners focus more on meaning and only attended on form after describing their ideas. However, Raimes (1987) did not find any evidence to show that her unskilled learners were intimidated by errors in form. Sasaki (2000) reported that expert writers took longer time in planning a detailed overall organization while the unskilled ones did less global planning. She claimed that learners’ proficiency in L2 as part of the factors in determining their strategy use. While Chien (2008) agrees with Sasaki in skilled writers demonstrate more concern in global planning, he claims that skilled writers plan less. Yang (2002) also observed differences between skilled and unskilled L2 writers in planning globally, generating ideas, and revising. Xiu and Xiao (2004) in their study on Chinese EFL strategies, concluded that skilled and unskilled writers showed difference in two writing strategies namely organizing ideas and transcribing. These inconsistent findings may have been

attributed by how L2 learners were classified as skilled and unskilled learners. Different criteria were used in different studies. Zamel (1983) and Raimes (1987) designated their subjects as skilled or unskilled on the basis of holistic assessment of compositions written by them on tests or in class. Sasaki (2000) used writing experience as a criterion in addition to holistic assessment of the subjects’ written products. Xiu and Xiao (2004) differentiated their subjects by their scores on a national English proficiency test. Yang’s (2002) subjects were judged to be good or poor writers on the basis of their scores on two previous writing tests and a questionnaire. The different criteria used in the studies make it difficult to decide whether the writing competencies of the skilled and unskilled L2 writers were comparable across the studies. In this regard, Raimes (1985) cautioned more than 20 years ago that the validity of the criteria which differentiate skilled writers from unskilled writers should be a main concern in research design. Since the writing competence of the L2 writer can be influenced by many factors (Leki, 1996; Grabe, 2001; Tardy, 2009), the adoption of multiple criteria should contribute to more precise assessment of an L2 learner’s writing competence in the target language. This consideration motivated us to adopt multiple criteria in classifying participants in our study.

However despite the numerous studies carried out on writing strategies, there are a few gaps that this paper intended to fill. Firstly, the researcher observed that most of the studies on ESL/EFL learners were conducted on Chinese or Japanese learners either mostly in Western educational context or some fewer ones in Chinese context (Guangwei & Chen, 2006). Therefore similar to Guangwei & Chen’s study on Chinese L2 learners in a Chinese context, the researcher intends to contribute further in filling in the vacuum by investigating ESL Malay learners in a Malay context. Hence the study conducted on local students in a higher learning institute in Malaysia. This intention is to further support Guangwei & Chen cited in Hedgcock (2005) that ‘the cultures and social contexts in which various literacies emerge inevitably influence [their] developmental processes’. Secondly, in most studies of L2 learners, cognitive strategies seemed to be the dominant focus in their studies especially in coding, describing and comparing writing strategies used between skilled and unskilled learners although studies on writing strategies takes into fair weightage on metacognitive strategies and social/affective strategies (Wenden, 1991; Riazi, 1997; Carter, Lillis, & Parkin, 2009; Ortmeier-Hooper, & Schwartz, 2010). This is aligned with Congjun’s (2005) and Ortmeier-Hooper, & Schwartz (2010) conclusion about ESL writing that the writing process is a very complex development influenced by many factors such as culture, politics, education, economy, social environment, community and language. Thus, the study takes into account of the writers’ cognitive, metacognitive and social strategies. In doing so, it is in the interest of the study to identify writing strategies used by the learners and the similarities or differences in the strategies used between skilled learners and unskilled learners of ESL. More specifically, the study investigates the following questions:

- (a) What are the writing strategies used by Four Malay Engineering students when they write composition in English?

- (b) Are there any differences between the writing strategies used by skilled ESL students to those used by the unskilled counterparts?

II. METHODOLOGY

A. Participants

The study involves four Malay engineering students from Universiti Teknologi Petronas, a private university in Malaysia. They were in their first year of undergraduate studies after having completed one year (2 semesters) in foundation programme which is an equivalent matriculation level programme. The participants are all aged 20 and assumed pseudonyms of Rose, Danya, Nafiqah and Halida. Since the aim of the study is to investigate the differences in the use of writing strategies between skilled and unskilled writer, multiple assessment criteria is adopted to classify L2 writers reliably according to their writing competence. The principal criterion which was used was students' overall performance in English subjects (coded GLF0014 and GLF0024 respectively) during their Foundation programme. Their performance in the subject was assessed through tutors' evaluation of their writing ability besides other major skills in their listening, speaking, reading and literature skills. Their scores in the final examinations for GLF0014 and GLF0024 were also used as main criteria. Both Rose and Danya obtained a grade A (highest grade) in average for both the English subjects while Nafiqah and Halida respectively scored a B minus and a C. The students' English Language tutors' (during Foundation programme) experiences and observations on them in class helped to further determine the students' performance in English especially in their writing skills. Both Rose and Danya were highly praised by their tutors for their outstanding English writing as compared to their peers.

However, Nafiqah and Halida were described as having poor performance in their writing. Based on the criteria, Rose and Danya were classified as skilled writers in this study while Nafiqah and Halida as unskilled ones. Besides their respective grades obtained and the teachers' observations, the students' willingness to participate in the study was also taken into account. Only students who were comfortable with the procedure of the study would be asked to volunteer for the collection of data.

B. Procedure

The methodology included asking participants to think aloud while engaging in composing. Protocol analysis has been a procedure recurrently used in understanding and comparing writing processes and strategies (e.g.; Jones & Tetroe, 1987; Arndt 1987; Raimes, 1985 and 1987). The think aloud protocols were transcribed verbatim to increase the reliability of subsequent data coding (Manchon, Murphy, & Roca de Lariou, 2005). Analysis started with reading the protocols once to segment the process into categories. Inferences on strategies used are made each time the protocols being read. The researcher would consult an expert in discourse analysis on any doubts on classification of strategies. Adaptation of terms and definition of strategies identified made from Yap (1999) cited in O'Malley and Chamot (1990). Specific processes and strategies were identified and categorized using a procedure based on coding schemes that was adapted from Yap (1999) as shown in Figure 1. The students were audio taped while they composed on a given topic. The topic was a familiar one which was close to the students' experiences.

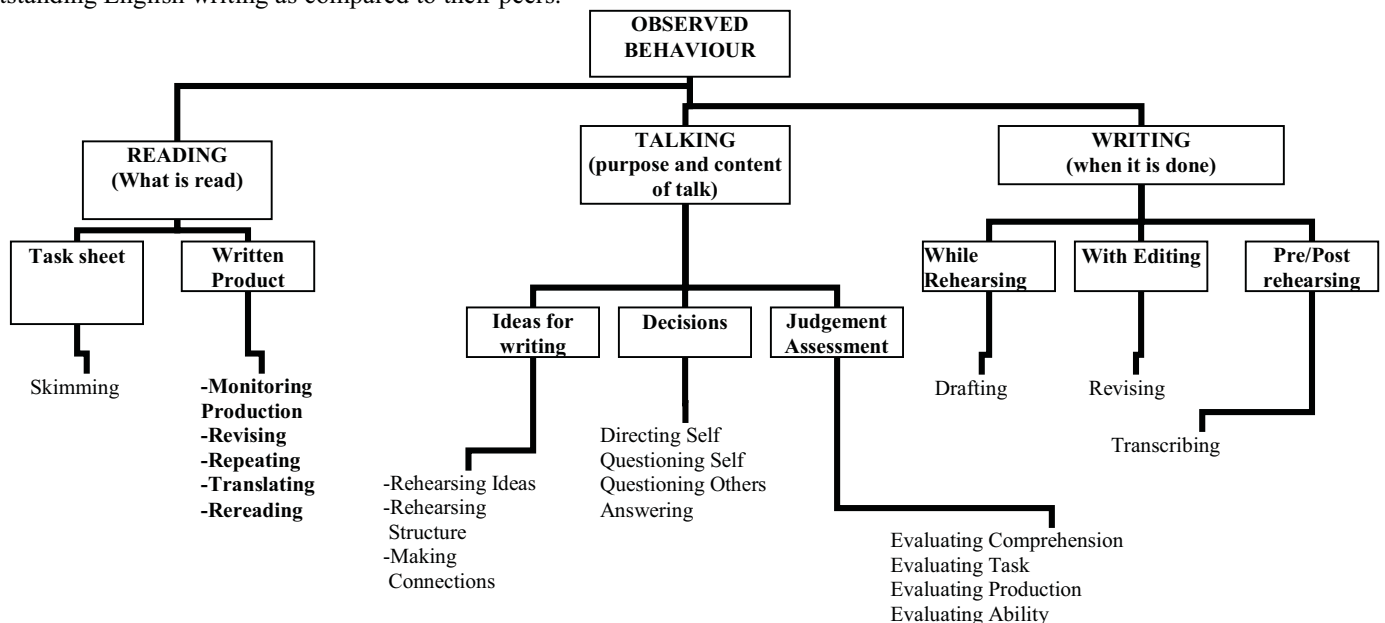


Figure 1 : Adapted from Yap(1999). Summary Of Guidelines For Coding Writing Strategies (Think Aloud Protocols). Strategies For Writing Business Letters Among Selected Weak ESL Learners at University Putra Malaysia. Unpublished Masters Thesis. University of Malaya.

The written products were analyzed for quality and length. The amount and type of self-regulatory behaviours used during the writing process were investigated. Follow-up retrospective interviews were then conducted on the students. This was vital to assign a correct code for the strategy used. The use of interviews would allow triangulation of data which is a measure taken in qualitative studies to ensure its reliability (Cohen and Manion, 1989).

C. Analysis Of Written Draft

The subjects' writing drafts were rated to provide some indication of writing quality (Table 1). The raters were the researcher and another English tutor who has taught for a number of years. The Test of Written English (ACTFL) guideline (Appendix 6) was used. The inter-rater reliability between the researcher and the second rater was an average of 0.83. Total agreement was obtained for the ranks of four drafts. The written drafts were ranked from 1 to 4; 1 for the best composition and 4 would indicate the below average. The drafts were also analysed to compliment the findings from the earlier findings to identify strategies being used and differences in strategies used among the subjects.

TABLE 1
RANK ORDER OF WRITTEN DRAFTS FOR THE
WRITTEN TASK

Students	Rater 1	Rater 2	Students	Rater 1	Rater 2
Rose*	1	1	Nafiqah	3	4
Danya*	2	2	Halida	4	3

1-Best; 2-Good; 3-Average; 4-Below Average

* Total agreement of rank order

III FINDINGS AND DISCUSSION

The results of this study were obtained from a detailed analysis of the transcribed think-aloud protocols and self-retrospective interviews. This study has listed twenty writing strategies under cognitive, metacognitive and social domain. From the findings, most of the strategies used by the engineering students in composing were cognitive ones but the least used strategies shared by the students were social strategies. All the students did not find difficulty in understanding the writing task, as it only required their recollection of their first day school experience. Under cognitive strategies, among the most dominant strategies employed by the students were transcribing, rehearsing ideas, rehearsing structure, rereading, translating, and repeating (Table 2). These strategies were mainly used to generate ideas. Rereading strategy is observed to be the most important strategy employed by the students in generating their ideas, in getting some sense of direction in their essay and further rereading also led the students to other ideas. This is consistent with earlier studies by Zamel (1982) as observed in the following Example 1:

Example 1: (H.W1)

Line	Protocol	Code
9	Aaa...January 1995...	Rehearsing ideas
10	<u>On January 1995, I was get in primary school in standard one.</u>	Transcribing
11	I was get in primary school in standard one.	Rereading
12	It was my first time...	Rehearsing ideas
13	<u>It was my first time...</u>	Transcribing
14	<i>Itulah kali pertama saya</i>	Translating
15	It was my first time...	Rereading
16	berjumpa dengan ramai kawan.	Rehearsing
17	It was my first time...	Rereading
18	<i>...jumpa ramai kawan.</i>	Repeating
19	It was my first time...	Rereading
20	<i>berjumpa...met a lot of friend...</i>	Translating
21	...met,	Rehearsing Structure
22	<u>met a lot of friend.</u>	Transcribing

Rehearsing and revising strategies were the main strategies used by the unskilled students prior to transcribing throughout their essay especially when they experienced mental block. In rehearsing, the study revealed that skilled students also rehearsed but they did it more for ideas whereas the unskilled students rehearse more for sentence structures. Although this finding may interpret that the skilled students stressed on meaning and the unskilled students dealt more on form but the difference in the frequency count of strategy use (refer to Table 2) is not convincing enough to lend a solid support for the belief. Besides the strategies, all the four writers also applied language switch and translation from English to Bahasa Melayu (students' L1) and from Bahasa Melayu to English protocols to facilitate the writing act using the translating strategy. The study shows that the students used the translating strategy for various purposes such as checking accuracy of written expressions, generating ideas or in their attempt to recall suitable words and phrases. However the strategy was more employed by the unskilled students to compliment their lack of competence in their L2. Resourcing is another cognitive strategy that was used more frequent by the unskilled students where they seeked help from their peers or the researcher to aid them especially in solving problems like searching for suitable words. The following Examples 2 and 3 depicted successful attempts of resourcing strategy used to meet the purposes:

TABLE 2 :
FREQUENCY COUNT OF STRATEGIES USED AMONG SUBJECTS

SUBJECT	GOOD LEARNERS				WEAK LEARNERS				TOTAL	
	ROSE		DANYA		NAFIQAH		HALIDA		S	%
Cognitive Strategies	f	%	f	%	f	%	f	%	S	%
Transcribing	188	48.7	118	37.9	76	25.7	40	20.9	422	35.6
Translating	22	5.7	21	6.8	23	7.8	22	11.5	88	7.4
Repeating	8	2.1	12	3.9	15	5.1	9	4.7	44	3.7
Making Connection	3	0.8	2	0.6	10	3.4	6	3.1	21	1.8
Resourcing	4	1.0	4	1.3	11	3.7	10	5.2	29	2.4
Revising	8	2.1	13	4.2	9	3.0	2	1.0	32	2.7
Skimming	1	0.3	1	0.3	1	0.3	1	0.5	4	0.3
Rereading	24	6.2	21	6.8	44	14.9	22	11.5	111	9.4
Recalling	3	0.8	5	1.6	1	0.3	2	1.0	11	0.9
Drafting	54	14.0	21	6.8	0	0.0	0	0.0	75	6.3
Total	261	67.6	197	63.3	190	64.2	114	59.7	762	64.4
Metacognitive Strategies										
Rehearsing Ideas	58	15.0	45	14.5	29	9.8	24	12.6	156	13.2
Rehearsing Structure	26	6.7	32	10.3	35	11.8	35	18.3	128	10.8
Monitoring Production	6	1.6	5	1.6	8	2.7	3	1.6	22	1.9
Evaluating Production	12	3.1	10	3.2	6	2.0	5	2.6	33	2.8
Evaluating Ability	0	0.0	0	0.0	7	2.4	5	2.6	12	1.0
Evaluating Task	0	0.0	0	0.0	2	0.7	2	1.0	4	0.3
Total	102	26.4	92	29.6	87	29.4	74	38.7	355	30.0
Social Strategies										
Directing Self	3	0.8	5	1.6	3	1.0	0	0.0	11	0.9
Questioning Self	13	3.4	10	3.2	10	3.4	2	1.0	35	3.0
Questioning Others	1	0.3	2	0.6	2	0.7	1	0.5	6	0.5
Answering	6	1.6	5	1.6	4	1.4	0	0.0	15	1.3
Total	23	6.0	22	7.1	19	6.4	3	1.6	67	5.7
GRANDTOTAL	386	100	311	100	296	100	191	100	1184	100

In Example 2, the student resorted to resourcing strategy merely to obtain the correct spelling of a word she heard before in order to complete her sentence. In Example 4, the student used the resourcing strategy to get the word 'pujuk' in English, which her friend had given the correct version 'persuade'. However the student refused to use the word but maintained her word 'calm me down' which has a similar meaning to 'persuade'. In her interview protocol she confirmed that she was actually seeking a better expression unlike in Example 3, her resourcing attempt was only to complete her idea of 'A fat boy with bald head'.

Example 2: (N.W3)

Line	Protocol	Code
88	Fortunately my father	Transcribing
89	...fortunately my father	Monitor Production
90	...calm me down	Rehearsing Ideas
91	... <u>calm me down</u>	Transcribing
92	Hey!(Turn to another student) Pujuk dalam Bahasa Inggeris tu apa hah?	Resourcing
93	<i>Persuade</i> . Ta adalah...ni BI ni lah.	
94	Calm...Tulis apa...tulis nilah kot...samalah tu.	Evaluate Production

*Words in italic indicates respond from others

Example 3: (N.W4)

Line	Protocol	Code
213	<u>a fat boy with</u>	Transcribe
214	...eh, botak dalam Bahasa Inggeris kata apa ?	Resourcing
215	<i>Bald</i> . Bald? Ye ke ?	
217	a fat boy...	Monitor Production
218	A fat boy with	Rereading
219	<u>bald head</u> .	Transcribing

However among all the strategies, this study found that only the skilled learners use the drafting strategy(as shown in Example 4) to draft out a rough plan on how to present their essay before they actually began their actual writing whereas the unskilled learners went straight into writing their first sentence of their actual writing after reading the topic. This findings support Flower's (1980) argument that skilled writers spent more time on planning as compared to novice writers. Another interesting finding here is that in planning their writing, the skilled students utilized the drafting strategy (cognitive strategy) together with other social strategy such as directing self and also with aid of metacognitive strategies like rehearsing ideas and rehearsing structures as illustrated in the Example. In fact among the metacognitive strategies listed, the most dominant ones being used by the students were the two rehearsing strategies mentioned.

Example 4 : (R.G2)

Line	Protocol	Code
7	First..I want to do map mapping	Directing Self
8	...map mapping kan?	Questioning self
9	map aaa..ha ha ... map mapping.	Directing self
10	aaa..first day	Rehearsing Ideas
11	.. <u>first day of</u>	Drafting
12	.. secondary school	Rehearsing Ideas
13	... <u>secondary school</u> .aaaa	Drafting
14	...biasanya first day begin on January	Rehearsing ideas
15	..january..first of January	Rehearsing structure
16	.. <u>january first</u>	Drafting
17	em... I enter form one..	Rehearsing ideas
18	and then aaa... <u>I meet</u> ... <u>with</u> .. <u>new friend</u> .	Drafting
19	. from	Rehearsing structure
20	.. <u>from</u> ... <u>other school</u>	Drafting

In short, what is pertinent here is that all the students did not perceive writing as only a cognitive process to merely producing a writing piece but a social and rhetorical situation as they interacted with their writing task by using social strategies like questioning self and answering strategies to address problems with words for Example. They also interacted with other peers/researcher for various purposes via questioning others strategy. This finding is consistent with Flower's (1994) social cognitive perspective and other findings conducted by Zimmerman and Risemberg (1997) and Scardamalia and Bereiter (1987).

Another crucial difference surfaced from this study is that despite the similarities in the writing strategies used between the skilled students and the unskilled students, there is a difference in the pattern of writing strategy use. For instance, in generating ideas between the skilled and the unskilled the students' pattern of thinking of ideas and writing them down differs. For Example, Danya's (skilled student) essay protocol in generating ideas would be transcribing, rereading, rehearsing ideas, transcribing (Example 5) which is similar to Rose's essay protocol pattern as rehearsing ideas, drafting, rehearsing ideas, drafting, rehearsing ideas, rehearsing structure, drafting whereas Halida's (unskilled student) essay protocol in generating for ideas would generally be transcribing, monitor production, revising, repeating, rehearsing structure, translating, repeating, translating, transcribing (refer Example 2) or transcribing, translating, rereading, rehearsing, rereading, repeating, translating, rehearsing structure, transcribing (refer to Example 1). Nafiqah, another unskilled student but having better command of language compared to Halida (through researcher's observation and monthly test report from their language teachers) showed her pattern of generating ideas as transcribing, rehearse ideas, translating, transcribing, rehearsing ideas, resourcing, rehearse structures, transcribing (refer to Example 6). Here, the researcher could see Nafiqah's

essay protocol is more similar to the skilled students' essay protocol than Halida's. Unlike Halida, Nafiqah had fewer use of translating (help from her L1) strategy. From these findings, the researcher could conclude that as the unskilled students' L2 proficiency increases, their patterns of writing strategy use would be more similar to good students'. However, the researcher would like to stress here that in-depth researches in this area (link of pattern of writing strategy use to language proficiency) has to be conducted before a generalization could be made.

Example 5 : (D.G1) – Skilled Student

Line	Protocol	Code
58	This is my first time to	Transcribing
59	...aaa...first time to be	Rereading
60	...to be as a student	Rehearsing ideas
61	<u>...to be a student in Chinese school</u>	Transcribing
62	...in Chinese school	Rereading
63	...sebelum ini...sebelum ini. I never	Rehearsing Ideas
64	<u>...I never think</u>	Transcribing
65	Ehh...I never <u>thought that</u>	Revising
66	...I never thought that	Monitoring Production
67	<u>I will be in this school because I don't like Chinese school</u>	Transcribing
68	...Chinese school	Monitoring Production

Key : ... - pauses underlined words – written product

Example 6: (N.W5)-Unskilled student

Line	Protocol	Code
220	I still wonder	Rehearse Structures
221	... <u>I still wonder</u> ...	Transcribe
223	macam manalah dia boleh jadi ketua sebab dia nakal.	Rehearse Ideas
224	How...how could she...be...be a monitor	Translate
225	<u>...how could he be a monitor because...he was the</u>	Transcribing
226	...nakal...	Rehearse Ideas
227	Heh! Nakal apa nakal ? <i>Naughty</i> . Aaa..naughty.	Resourcing
228	Because he was the naughtiest boy in...our classroom	Rehearse Structures
229	... <u>naughtiest boy in the</u>	Transcribing

230	classroom	Rehearse Structures
231	<u>...classroom</u>	Transcribing
232	Naughtiest boy in the classroom	Rereading
233	Lepastu ?	Questioning Self
234	...but...but luckily he was...he was...	Rehearsing Structures
235	, tak payahlah.	Evaluating Production
236	Macam nak cakap hah ?	Questioning Others
237	...cikgu tu garangkan...	Rehearsing Ideas
238	aa...Before I forget...	Rehearsing Structures
239	Before I forget	Transcribing
240	my class teacher...my class teacher...	Rehearsing Structures
241	aaa...sebelum aku lupa baik aku cerita ni ha...	Directing Self
242	pasal cikgu yang garangtu.	Repeating
243	Before I forget	Rereading

In summation, writing strategies were not used in isolation but in combination as suggested by previous studies by Anderson (2002b) and Yap (1999) which proposed that more than one strategy of a different domain may be involved in a writing task. Another important fact is that the strategies were used in a particular pattern in a recursive manner (Flowers, 1981) depending on the purpose of the writer either to generate ideas, revising or editing or searching for a particular word. Besides the factor of language competence, though the skilled and the unskilled writers share common strategies but the difference lies on the amount of usage and how the students regulated the strategies to produce a good piece of writing. This findings was consistence with Abdollahzadeh, (2010); Chien, 2008; Chamot & Kupper(1989); Wenden(1998) who agreed that successful learners tend to use strategies that work well together.

IV CONCLUSION

One of the major findings through the analysis of the verbal protocol in this study is the recursive manner of the strategies used by the engineering students in their writing process and 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 suggest is that writing is not a linear process which involves typically the planning first, drafting and ending with revising procedure but writing is more like writers engaging in the rehearsing, transcribing, rereading, revising process in a cyclical or recursive manner. Therefore the research shows that writing is not best taught as a linear, sequential set of skills but as a

process of gradual approximation of what skilled writers do: a cycling and recycling of learning processes. Composition is not something that should wait until all the basic, prerequisite skills are learned, but can be introduced even to relative beginners. 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 a passive task of just 'filling up' the paper with words; instead it should be taken as a problem-solving task with goals to be attained. If our writing curricula are to foster the growth of goal-oriented problem-solving skills, instructors need to acknowledge 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. In other words, writing should not be taken personally but more as a social interactive task. Low-level writing processes 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 construction of meaning. Students should be taught not to be impeded by form in writing; instead meaning should be the main 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 four 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 conduct similar study.

REFERENCES

- [1] Abdollahzadeh, Esmaeel. (2010). Undergraduate Iranian EFL Learners' Use of Writing Strategies. *Writing & Pedagogy, Vol. 2, (1)*. [Online]. Available: <http://www.equinoxjournals.com/WAP/article/viewArticle/5838>
- [2] American Council for the Teaching of Foreign Languages. (1983). *ACTFL Proficiency Guidelines*. Revised 1985. Hastings-on-Hudson, NY: ACTFL Materials Center.
- [3] Anderson, N.J. (2002b). Using Telescopes, Microscopes, and Kaleidoscopes to Put Metacognition into Perspective. *TESOL Matters, 12* (4), 2002.
- [4] Arndt, V. (1987). Six writers in search of text: a protocol-based study of L1 and L2 writing. *ELT Journal, vol. 1*, 4 Oct, 257-267.
- [5] Bereiter, C., & Scardamalia, M. (1987). *The Psychology of Written Composition*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- [6] Carter, A., Lillis, T., & Parkins, S. (Eds.). (2009). *Why writing matters: Issues of access and identity in writing research and pedagogy*. Philadelphia: John Benjamins.
- [7] Chamot, A., & El-Dinary, P. (1999). Childrens learning strategies in language immersion classrooms. *Modern Language Journal, 83*, 319-338.
- [8] Chien, Shih-Chieh. (2008). A Cognitive Analysis of the Relationships between Chinese EFL Writers' Strategy Use and Writing Achievement Performance. *Cambridge Occasional Papers in Linguistics (COPiL)*. [Online]. Available: <http://www.ling.cam.ac.uk/COPiL/papers/3-chien.pdf>
- [9] Cohen, A & Brooks-Carson, A. (2001). Research on direct versus translated writing: Students' strategies and their results. *The Modern Language Journal, 85*, 169-188.
- [10] Congjun (2005) A Taxonomy of ESL Writing Strategies. In *Proceedings Redesigning Pedagogy: Research, Policy, Practice*, pages pp. 1-10, Singapore.
- [11] Dyson, A.H. & Freedman, S.W. (1991). "Writing." In J.Flood, J.M. Jensen, Lapp, D. & J.R. Squire (1991). *Handbook of Research on Teaching the Language Arts*. (Sponsored by the International Reading Association and the National Council for Teachers of English). New York: Macmillan.
- [12] Emig, J. (1971). *The Composing Processes of Twelfth Graders*. Urbana, Ill.: NCTE.

- [13] Ericsson, K.A., & Simon, H. A. (1980). Verbal reports as data. *Psychological Review*, 87, 215-251
- [14] Eysenack, M. and Keane, M. (2005). *Cognitive Psychology* (5th edition), Hove: Psychology Press.
- [15] Field, J. (2004). *Psycholinguistics: the Key Concepts*. London: Routledge.
- [16] Flower, L. (1981). *Problem-solving strategies for writing*. New York: Harcourt Brace Jovanich Inc.
- [17] Guangwei Hu & Bo Chen. (2006). A Protocol-Based of University-Level Chinese EFL Learners' Writing Strategies. EA Journal Volume 23 No 2. Retrieved Jan 10, 2009, from <http://www.englishaustralia.com.au/>
- [18] Hayes, J.R., & Flower, L.S. (1983). Uncovering cognitive processes in writing: An introduction to protocol analysis. In P. Mosenhal, L. Tamor, & S.A. Wellesley (Eds.), *Research on writing: Principles and methods* (pp. 206-220). New York: Longman.
- [19] Jones, S., & Tetroe, J. (1987). Composing in a second language. In A. Matsuhashi (Ed.), *Writing in real time* (pp. 34-57). Norwood, NJ: Ablex.
- [20] Kaplan, R. B. (1966). Cultural through patterns in intercultural education. *Language learning*, 16, 1-20.
- [21] Kellogg, R. T. (1996). A model of working memory in writing, in Levy, C. M. and Ransdell, S. (Eds) *The Science of Writing*, Mahwah, NJ: Lawrence Erlbaum, 57-72.
- [22] Okamura, A. (2006) Two types of strategies used by Japanese scientists, when writing research articles in English. *System* 34: 68-79.
- [23] Ortmeier-Hooper, C. M. (2010). *Beyond "English language learner": Second language writers, academic literacy, and issue of identity in the U.S. high school*. Retrieved from ProQuest Digital Dissertations. (AAT 3277145)
- [24] Petric, B. and Czarl, B. (2003) Validating a writing strategies questionnaire. *System* 31: 187-215.
- [25] Mancho'n, R. M., & Roca de Larios, J. (2007). Writing-to-learn in instructed language learning contexts. In E. Alco'n & P.Safont (Eds.), *Intercultural language use and language learning* (pp. 101-121). Dordrecht, the Netherlands: Springer.
- [26] Raimes, A. (1985). What unskilled ESL students do as they write: A classroom study of composing. *TESOL Quarterly*, 19(2), 229-258.
- [27] Sasaki, M. (2000). Toward an empirical model of EFL writing processes: An exploratory study. *Journal of Second Language Writing*, 9, 259-291.
- [28] Silva, T. (1993). Towards an understanding of the distinct nature of L2 writing: The ESL research and its implication. *TESOL Quarterly*, 27(4), 657-675.
- [29] Tardy, C. M. (2009). *Building genre knowledge: L2 writing*. West Lafayette, IN: Parlor Press.
- [30] Wenden, A. (1987). Conceptual background and utility. In Wenden, A. & Rubin, J.(1987)*Learner Strategies in Language Learning* (pp 3-14).
- [31] Yap(1999). Strategies For Writing Business Letters Among Selected Weak ESL Learners at University Putra Malaysia. Unpublished Masters Thesis. University of Malaya.
- [32] Zamel, V. (1983). The Composing processes of advanced ESL students: Six case studies. *Tesol Quarterly*, 17, 165-187.
- [33] Zimmerman, B.J. & Risemberg, R. (1997). Caveats and Recommendations about self regulation of writing: A social cognitive rejoinder *Contemporary Educational Psychology*, 22,115-112.