Memory and Cognitive Strategies of High Ability Students in a Rural Secondary School

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Abstract

This study was conducted to examine language learning strategies employed by the high ability students in a rural secondary school. Memory and cognitive strategies employed by the high ability students were the main focus in this study. A survey design was used and data was collected using Oxford's questionnaires. Findings reveal that the high ability students use cognitive strategies more frequently than the memory strategies. One memory strategy is shown to have been employed most frequently by the high ability students. Teachers are therefore recommended to teach them how to use the less frequently chosen strategies and the strategies used by successful language learners.

Keywords: language learning srategies, high ability, high proficiency, low proficiency, potential

1. Introduction

1.2 Background of the Study

Language learning strategies are specific behaviours or thought processes that students use to enhance their second language learning. Past research has found that the high proficiency students and the low proficiency students use different type of strategies (Oxford, 1990). However, the research on the high ability students' language learning strategies has been very sparse. In this study, the memory and cognitive strategies used by the high ability students in a rural secondary school in Malaysia was investigated. These high ability students aged seventeen attended a special class programme in school. Their selection was made based on their achievements in Year Six National Exam. Those who achieved 5As in the Year Six National Exam are eligible to attend this special class programme (Ministry of Education, 2012). Then, during Form Three National Exam, the grades they obtained for Mathematics and Science were higher than the average students. However, despite their capability in learning, these high ability students showed varied achievements in English. Some of them obtained B+ to A for English while some managed to get B and C only. Their grades indicated that these high ability students possessed different language abilities. Therefore this study attempted to investigate the language learning strategies employed by the high proficient and low proficient students in acquiring English as a second language.

1.3 Rational of the Study

Many studies have shown that learners can enhance their proficiency in a second language if they use strategies which suit them. However, very little study has been done on the high ability students' choice of strategies. This present study was thus held for two reasons: First, English is a compulsory subject for the students to learn in school (Education Act, 1996). Second, the recent policy on English language learning requires the students to improve their oral proficiency (Ministry of Education, 2012). The policy thus requires teachers to assist the high ability students to improve their proficiency so that they can communicate effectively with other English speakers.

1.4 Purpose and Significance of the Study

This study was conducted to examine the memory and cognitive strategies employed by the high ability students who are of high and of low proficiency in English in acquiring the second language. The findings from this study should be able to explain why the high ability students differ from each other in acquiring English when they are equally capable of learning. Moreover, the findings should assist the teachers to plan effective lessons so that the

high ability students' full potential in learning English as a second language can be further developed. Therefore, the following two research questions were addressed in this study:

1)   What are the memory strategies employed by the high ability students in learning a second language?

2)   What are the cognitive strategies employed by the high ability students in learning a second language?

2. Literature Review

2.1 High Ability Students

Gagne (2007) defines high ability students as those who systematically develop certain abilities or skills and place themselves higher than their age peers. Meanwhile gifted students are those who own superior natural abilities compared to other individuals in the same age group. On the other hand, Nicpon and Pfeifer (2011) refer to high ability with gifted students who have multipotentials in various domains and the definitions vary from one culture to another culture.

Based on these definitions, this study chose to associate the high ability students to those who achieve 5As in Year Six National Examination and whose achievement in Mathematics and Science are above average and higher than their age peers. For their high achievements, they are placed in special class programme and are therefore expected to increase their performance. These high ability students referred to in this study have potentials to learn a second language. Their potentials need to be nurtured by identifying the language learning strategies employed by them.

2.2 Language Learning Strategies

Oxford's classification of language learning strategies were used as the basis for this study. 0xford (1990) defines learning strategies as specific actions, behaviors, steps, or techniques employed by the students to solve a difficult language task so as to enhance their own learning. She states that when the student consciously chooses strategies that fit him and the second language task at hand, these strategies become a useful toolkit for active, conscious, and purposeful selfregulation of learning. Oxford (1990) classifies learning strategies into six groups which are cognitive, metacognitive, memory, compensatory, affective and social. Yet, for the purpose of this study, only two language learning strategies were analysed. They are :

2.2.1 Memory Strategies

Consist of four sets of memory which are creating mental linkages, applying images and sounds, reviewing well, and employing action. Oxford (1990) claims that since the brain has the ability to store trillion bits of information, these four sets of memory strategies should be able to help the learners to remember the new language learned. The learners will be able to store and retrieve information about the language (Oxford, 1990).

2.2.2 Cognitive Strategies

Involve four sets of strategies which are practicing, receiving and sending messages, analysing and reasoning, and creating structure for input and output. Oxford (1990) states that many learners tend to construct a formal model in their minds based on analysis and comparison, create general rules and revise the rules when new information is available.

So, based on Oxford's classification, this study looked at the memory strategies as those strategies that help second language learners to store and retrieve new information and cognitive strategies as those strategies which enable learners to understand and produce new language by using the four cognitive strategies.

2.3 Past Studies on Language Learning Strategies

According to Oxford (1994), research shows that the effective use of second language learning strategies can help learners to acquire the language. In fact, the past findings demonstrate that successful language learners

- showed improved proficiency use appropriate language learning strategies

- select strategies that work well together and fit the language task given.

- cognitive and metacognitive strategies are often used together.

- certain strategies or cluster of strategies are linked to particular language skills or task.

- the powerful social and affective strategies are found less often in research.

Moreover, Oxford (1994) reveals an interesting finding regarding the choice of language learning strategies among Asian students. Asian students appear to prefer rote memorization and other types of memory strategies to other strategies. A few recent studies done in Asia confirm this finding. For example, Samad et al. (2010) who

did a study on undergraduate students in Malaysia found that the low proficiency learners prefer memory strategies to cognitive strategies whereas the high proficiency learners prefer cognitive strategies. Another study done by Yang and Dai (2012) on Chinese learners indicated the frequent use of memory strategies. The learners prefer structural association and semantic strategies in memorising new words. Some students still prefer rote memorization in learning new words.

By analysing past research, Nambiar (2009) explored the relationship between belief and strategy used by the language learners. She concluded that the learners' belief in their learning ability influence their choice of strategies. For instance, she cited a study done by Yu (2007). Yu found that the learners who have strong form-focussed belief disagreed with the use of mother tongue to learn a second language. The learners reported a higher use of language learning strategies. Nambiar (2009) also claimed that learning environment influences the learners' choice of language learning strategies.

2.4 On How the High-Ability Perceive the Strategy They Use

Earlier study done by Vallerand et al. (1994) on students' differentiated learning indicated that in similar to the gifted students, the high ability students perceive that they use cognitive strategy more than the regular students. As a result of believing in their own ability, they developed high intrinsic motivation. In the study, the students were placed in a homogeneous classroom similar to the students in the present study. By being in such classroom, the high ability students seem to have a high intrinsic motivation. They are able to learn and discuss with other students who are equally competent. Therefore, Vallerand et al. (1994) hyphothesized that when they are placed in a mixed-ability classroom, the high ability students' motivation will reduce and thus will obtain poor achievement. However, this may not be the case because Smith (2003) discovered that the underachievers may not be performing in examination due to various factors. Some boys may not like doing coursework like the hardworking girl while some students of different ethnic may learn differently from their peers. Realising the possibility that high ability students may become underachievers, a study on the high ability students in the rural school in Malaysia is therefore crucial. Identifying the memory and cognitive strategies they use will enable them to improve their own language learning.

2.5 Strategies Used by Successful Second Language Learners in Malaysia

While other researchers locally have been examining the language learning strategies used by the second language learners, Embi and Amin (2010) suggest some strategies that students in Malaysia can use to enhance their English. In their book, "Strategies for Successful English Language Learning", they encourage the second language learners to assess their own learning strategies before they learn more about the strategies employed by the successful language learners. Embi and Amin stress that once learners are aware of their own strategies, they can adopt the language learning strategies used by the successful English language learners. One of the strategies suggested is the memory strategy. The learners can be taught to use mnemonic to remember the prepositions of time such as on, at and in (2010, p 94). Nevertheless the strategies suggested by Embi and Amin (2010) are for low proficiency language learners from a mixed ability group. Hence, more research should be done on the high ability students' choice of language learning strategies because they might differ from the regular students.

3. Methodology

3.1 Research Design and Setting

This study collected data using a survey design and it was conducted at a rural secondary school in Malaysia. Malay is the language mainly spoken by the students and almost everyone in their neighbourhood.

3.2 Participants

Forty two (n = 42) high ability students aged 17 were purposely chosen as the participants for this study. These high ability students were placed in a special programme in school. They were chosen to be in the programme based on their past achievements in Year Six National Exam and Form Three National Exam. They obtained 5As in Year Six National Exam and at least 5As in Form Three National Exam.

3.3 Instruments

This study only analysed memory and cognitive strategies employed by the participants. To elicit data, a set of Oxford's questionnaires on language learning strategies were given to the students. The reliability of the items used were tested using cronbach alpha. The cronbach alpha coefficient for this study was .786. The students were asked to choose the language memory and cognitive strategies they employed in the learning of English as a second language. Data for the study was elicited from the students' response to the statements prepared by the

researcher. They had to response based on five-point-scale. Never or almost never true of me, usually not true of me, somewhat true of me, usually true of me and always or almost always true of me.

3.4 Data Collection, Procedure and Analysis

All the data were collected during the first semester of academic year 2012. During a 80-minute lesson, the students were asked to answer a set of questionnaires. The researcher reminded them to answer the questionnaires individually. They were required to reflect on the strategies they choose in their learning of English as a second language. As they were answering the questionnaires, they were not allowed to discuss their choice of language learning strategies with others. This was to ensure that each of the student's answer was not influenced by their peers. The data was then analysed using the computer programme called Statistical Package for the Social Science. The descriptive statistic was used to see the frequency, the percentage and the learning strategies employed by the learners.

4. Results

4.1 Memory Strategies

With respect to the first research question, results are presented in table 1.

Table 1. Memory Strategies

Item	Never or Always Never True of Me % (Frequency)	Usually Never True of Me % (Frequency)	Somewhat True of Me % (Frequency)	Usually True of Me % (Frequency)	Always or Almost True of Me % (Frequency)
I use new English words in a sentence so I can remember.	9.5 (4)	11.9 (5)	52.4 (22)	19.0 (8)	7.1 (3)
Connect the sound of a new English word and an image or picture of a situation in which the word might be used.	11.9 (5)	26.2 (11)	38.1 (16)	19.0 (8)	4.8 (2)
I remember English word by making a mental picture of a situation in which the word might be used.	9.52 (4)	21.4 (9)	33.3 (14)	23.8 (10)	11.9 (5)
I used song to remember new English words.	31.0 (13)	23.8 (10)	14.3 (6)	14.3 (6)	16.7 (7)
I stick the words on board or mirror so that I can remember the new English words.	64.3 (27)	21.4 (9)	12.9 (5)	0 (0)	2.4 (1)
I remember new English words by memorising the meanings in Malay.	0 (0)	4.76 (2)	21.42 (9)	30.95 (13)	42.86 (18)
I remember new English words by making notes of new words in a notebook and always look at it.	23.8 (10)	28.6 (12)	23.8 (10)	16.7 (7)	7.1 (3)

Table 1 shows that learners put effort to memorise words learned. About 95.23 % of them remember new words by memorising the meaning in Malay. The high percentage indicates that it is the most frequent memory strategy used by the learners. Meanwhile, the least memory strategy used by the learners is sticking new words on board or mirror. The table shows that 15.3 % of them stick a new word learned on board. 61.9% of the learners connect the sound of a new English word and an image or picture of a situation in which the word might be used. The table also demonstrates that 47.6 % of the learners remember new English words by making notes of new words in a notebook and always look at it. Only 45.3 % of them use songs to remember new English words. 78.5 % of the learners attempt to use new words in a sentence. Only 9.5 % of them have never used new words in a sentence. Another strategy used by the learners to remember English word is by making a mental picture of a situation in which the word might be used. 69.0 % of them are using this strategy.

4.2 Cognitive Strategies

Meanwhile, with respect to the second research question, the results are displayed in table 2 below:

Table 2. Cognitive Strategies

Item	Never or Always Never True of Me % (Frequency)	Usually Never True of Me % (Frequency)	Somewhat True of Me % (Frequency)	Usually True of Me % (Frequency)	Always or Almost True of Me % (Frequency)
I use new English words several times when I write or speak.	4.8 (2)	31.0 (13)	42.9 (18)	19.0 (8)	2.4 (1)
I try to talk in English with my friends.	14.3 (6)	19.0 (8)	28.6 (12)	31.0 (13)	7.1 (3)
I practice the sound in English.	11.9 (5)	16.7 (7)	31.0 (13)	28.6 (12)	11.9 (5)
I watch English Language TV shows or go to movies spoken in English.	4.8 (2)	4.8 (2)	16.7 (7)	26.2 (11)	47.6 (20)
I read English story book.	11.9 (5)	23.8 (10)	31.0 (13)	14.3 (6)	19.0 (8)
I write message or sms in English.	14.3 (6)	11.9 (5)	57.1 (24)	9.5 (4)	7.1 (3)
I read a reading passage twice to understand it.	2.4 (1)	9.5 (4)	16.7 (7)	38.1 (16)	33.3 (14)
I look for new English words that are similar to Malay.	9.5 (4)	19.0 (8)	33.3 (14)	28.6 (12)	9.5 (4)
I try not to translate word for word.	14.3 (6)	21.4 (9)	38.1 (16)	16.7 (7)	9.5 (4)

Table 2 demonstrates that the learners apply cognitive strategies in learning English as a second language. 90.5% of them watch English Language TV shows or go to movies spoken in English. 88.1 % of them read a passage

twice in order to understand it. Meanwhile, 73.7 % of them write a message or sms in English. Only 71.5 % of them practise the sound in English. Using new English words when they write or speak, reading English story book, trying to talk in English with friends and trying not to translate word for word are among the strategies less applied by the learners. 35.7 % of the learners indicate that they have never and usually never read English story book.

5. Discussion

The analysis of the data showed some important findings that have implications on the practice of teaching and learning of a second language. On the whole, the learners use both memory and cognitive strategies in learning English as a second language. The learners appear to choose some cognitive strategies more frequently than the memory strategies and vice versa. They might have realised that both strategies could assist them in improving their English.

5.1 Memory Strategies

First, the study indicates that the learners use their first language to enhance their memory of new words learned. 95.23 % of them always choose to remember new words by memorising the meaning in Malay. This implies that the learners prefer to translate the English words into Malay in order to increase their memorisation of the English words. This study correlates with Maros et al. (2007) and Musa et al. (2012) who discovered that rural learners in Malaysia are strongly influenced by their first language in learning English. It also confirms a study done by Liu (2008) on Chinese undergraduates in a university.The study has reported that the knowledge of the first language is always in the mind of the learners even though teachers stress that they must think in the second language. The knowledge is somehow connected with the new knowledge of the second language learned.

Second, it points out that 78.5 % of the learners in this rural school makes an effort to construct sentences using new words they learn. Teacher should therefore let the learners use this strategy in teaching them by giving them ample opportunity to practise making sentences using the new words.

Third, it suggests that teachers can train the learners to remember English word by making a mental picture of a situation in which the word might be used. In this study, 61.9% of the learners have chosen this strategy to improve their English.

Fourth, it demonstrates that the teaching of phoneme and the use of image or picture are crucial in strengthening the learners' memory. 61.9% of the learners choose to connect the sound of a new English word, and an image or picture of a situation in which the word might be used.

5.2 Cognitive Strategies

First, it shows that watching English Language TV shows or going to movies spoken in English is the most frequent strategy applied by the learners. 90.5 % of them apply this strategy. This is in line with the findings made by Asgari and Mustapha (2011) who reported that this strategy was also the most frequently chosen cognitive strategy among the English second language learners in their study. In earlier study, Omojuwa et al. (2010) had pointed that the second language learners can develop their vocabulary from watching English Language TV shows. Thus, it seems television as a media still has impact on second language learning. Teachers should be encouraged to use English TV shows or English movies in their lessons.

Second, despite being exposed only to English during formal instructions in the classroom, 73.7 % of the high ability learners choose to write a message or sms in English. Based on this discovery, teacher should consider training the learners to use this strategy to learn English after school. Ally et al. (2007) have suggested that the learners may use their time away from school to learn grammar, to reread and redo exercises via mobile learning.

Third, as 71.5 % of them also practice the sounds in English in their attempt to improve their English, teachers should not neglect the teaching of phonetics and pronunciation in the classroom. Ability to pronounce English words correctly can boost the learners' motivation to communicate in the language with their friends, teachers and the society outside school compound. The use of English courseware to teach them pronounce Engish words can also benefit the high ability learners (Yunus et al., 2010).

6. Recommendation

The findings from this present study have a number of implications on the teaching and learning of English as a second language to a group of high-ability learners. This study highlighted that some memory and cognitive strategies are chosen less frequently than the other strategies in the same categories. Yet, this does not mean that they are not important in second language learning. The learners' talent need to be developed so that their language learning ability can be enhanced (Barab & Plucker, 2002). One of the ways is to teach them how to use

the less frequently chosen strategies. Another way is to teach them how to use the strategies employed by the successful English language learners (Embi & Amin, 2010 and Liang, 2009).

7. Conclusion

This study explored the selected memory and cognitive strategies of the high ability learners who attend a special class programme in a rural secondary school in Malaysia. The findings depict that this high ability group employed both memory and cognitive strategies. There is evidence that 95.23% of the learners always choose to remember the new English words learned by memorising the meaning in Malay. However other memory strategies were not as frequently selected by them. The learners might find memorising the meaning of English word in Malay contributes towards an increase in their English vocabulary. There is also evidence that the second highest strategy chosen by the learners is the cognitive strategy (90.5%) which is watching English Language TV shows or going to movies spoken in English. This particular strategy might have helped them to get exposure to English Language and provide an indirect training on listening skills. For future research, the highest and the second highest strategies found used by the learners in present study should be further investigated. The findings may assist teachers to understand how high ability learners can benefit from them.

References

Ally, M., McGreal, R., Schafer, S., Tin, T., & Cheung, B. (2007). Use of mobile learning technology to train ESL adults. *Proceedings of the Sixth International Conference on Mobile Learning*, Melbourne. Retrieved from http://www.ccl-cca.ca/pdfs/FundedResearch/201009AllyMcGrealSchaferTinCheungFullReport.pdf

Asgari, A., & Mustapha, G. B. (2011). The Type of Vocabulary Learning Strategies Used by ESL Learners in University Putra Malaysia. *English Language Teaching*, *4*(2), 84-90. http://dx.doi.org/10.5539/elt.v4n2p84

Barab, S. A., & Plucker, J. A. (2002). Smart People or Smart Contexts? Cognition, Ability, and Talent Development in an Age of Situated Approaches to Knowing and Learning. *Educational Psychologist*, *37*(3), 165–182. http://dx.doi.org/10.1207/S15326985EP3703_3

Education Act. (1996). The Government of Malaysia.

Embi, M. A., & Amin, M. Z. (2010). *Strategies for Successful English Language Learning.* Selangor Darul Ihsan, Malaysia: Karisma Publication Sdn. Bhd.

Liang, T. (2009). Language Learning Strategies--The Theoretical Framework and Some Suggestions for Learner Training Practice. *English Language Teaching*, *2*(4), 199-206. Retrieved from http://ccsenet.org/journal/index.php/elt/article/viewFile/4478/3822

Liu, J. (2008). L1 use in L2 vocabulary learning: Facilitator or barrier. *International Education Studies*, *1*(2), 65-70. Retrieved from http://www.ccsenet.org/journal/index.php/ies/article/view/888/864

Maros, M. Hua, T. K., & Salehuddin, K. (2007). Interference In Learning English: Grammatical Errors In English Essay Writing Among Rural Malay Secondary School Students In Malaysia. *Journal e-Bangi, 2*(2), 5-20. Retrieved from http://pkukmweb.ukm.my/e-bangi/papers/2007/marlyna07.pdf

Ministry of Education. (2012). *Executive Summary Preliminary Report Malaysia Education Blueprint,* 2013-2025. Retrieved October, 15, 2012 from http://www.moe.gov.my/userfiles/file/PPP/Preliminary-Blueprint-ExecSummary-Eng.pdf

Musa, N. C., Koo, Y. L., & Azman, H. (2012). Exploring English language learning and teaching in Malaysia. *GEMA: Online Journal of Language Studies*, *12*(1), 35-51. Retrieved from http://www.ukm.my/ppbl/Gema/GEMA%20vol%2012%20(1)%20Special%20section%202012/pp_35_51.pdf

Nambiar, R. R. (2009). Learning Strategy Research--Where Are We Now? *The Reading Matrix*, *9*(2), 132-150. Retrieved from http://www.readingmatrix.com/articles/sept_2009/nambiar.pdf

Nicpon, M. F., & Pfeiffer, S. I. (2011). High-Ability Students: New Ways to Conceptualize Giftedness and Provide Psychological Services in the Schools. *Journal of Applied School Psychology, 27*(4), 293-305. http://dx.doi.org/10.1080/15377903.2011.616579

Omojuwa, J. O., Timothy, A., & Obiekezie, E. (2010). The television factor in vocabulary development among secondary school students in Cross River state, Nigeria. *Global Journal of Educational Research*, *8*(1&2), 55-59. Retrieved from http://www.globaljournalseries.com/index/index.php/gjer/article/viewFile/66/pdf

Oxford, R. (1994). *Language Learning Strategies: An Update.* ERIC Clearinghouse on Languages and Linguistics, Centre for Applied Linguistics. Retrieved from http://www.cal.org/resources/Digest/oxford01.html

Oxford, R. L. (1990). *Language learning strategies: What every teacher should know.* Boston, Massachusetts: Heinle & Heinle Publisher.

Oxford, R. L. (1996). *Language Learning Strategies Around The World:Cross-Cultural Perspectives.* Second Language Teaching at Curriculum Center,University of Hawaii at Manoa, United States of America: Universiti of Hawai'i Press.

Samad, A. A, Singh, S., & Gill, S. K. (2010). A Survey On The Language Learning Strategies Used By The UHB 1412 Students. 1-7. Retrieved from http://eprints.utm.my/11621/1/A_Survey_On_The_Language_Learning_Strategies_Used_By_The_UHB_1 412_Students.pdf

Smith, E. (2003). Failing Boys and Moral Panics: Perspectives on the Underachievement Debate. *British Journal of Educational Studies, 51*(3), 282-295. http:// dx.doi.10.1111/1467-8527.t01-2-00239

Teh, K. S. M., Embi, M. A., Yusoff, N. M. R. N., & Mahamod, Z. (2009). Language Learning Strategies and Motivation among Religious Secondary School Students. *The International Journal of Language Society and Culture, 29,* 71-79. Retrieved from http://www.educ.utas.edu.au/users/tle/JOURNAL/issues/2009/29-7.pdf

Vallerand, R. J., Gagné, F., Senécal, C., & Pelletier, L. G. (1994). A comparison of the school intrinsic motivation and perceived competence of gifted and regular students. *Gifted Child Quarterly*, *38*(4), 172-175. http://dx.doi.org/10.1177/001698629403800403

Yang, W. D., & Dai, W. P. (2012). Vocabulary Memorizing Strategies by Chinese University Students. *International Education Studies*, *5*(1), 208-216. http://dx.doi.org/10.5539/ies.v5n1p208

Yunus, M. M., Hashim, H., Jusoff, K., Nordin, N. M., Yasin, R. M., & Rahman, S. (2010). ESl Lecturers' Voices on Tell Me More. *Studies in Literature and Language*, *1*(1), 69-84. Retrieved from http://scholar.google.com.my/scholar?q=%29.+ESl+Lecturers%E2%80%99+Voices+on+Tell+Me+More& btnG=&hl=en&as_sdt=0%2C5