



Learning Strategies Among Multi-Ethnic Students in Miri, Sarawak, Malaysia

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Abstract: Student learning in 21st century is influenced by their learning strategies. Students need to have self-confidence, self-directed learning, contributing actively, and be attentive learner. However, student's learning strategies still be an issue in helping our students to master their learning skills and their academic achievement. Thus, the objective of this study is to identify the ways to help the students to improve their mathematical achievement among high school students. Specifically, this study aims to determine the types of learning strategies among multi-ethnic students in Miri, Sarawak. The total number of the students involve in this study are 532. Motivation Strategy for Learning Questionnaire (MSLQ) which consist 57 items is used. The overall findings showed that all of the dimensions of learning strategies are in moderately high level. The mean of all the dimensions are in between 4.09 to 4.46. The findings of the study showed that the dimensions of seeking help was the highest and followed by peer learning dimensions and the lowest was the dimension of organizing among the multi - ethnic groups in Miri. The highest mean of learning strategies for Malay is seeking for help and effort- regulation for Chinese where as Ulu and Dayak are peers dimension. These findings can help educators to understand the kind of learning strategies that are more appropriate for their different ethnic groups students. Different ethnic groups should focus on different learning strategies in their learning process.

1. INTRODUCTION

Student learning in 21st century is influenced by their learning strategies. Students in 21st century need to have self-confidence, self-directed learning, contributing actively, and be attentive citizens. In Finland, their skills are based on self-development, cultural and international identity, media and communication skills, participatory citizens, responsible for the environment, emphasizing personal health and a sustainable future. According to the viewpoints of educational psychologists, one of the important goals of education is to express the character of outstanding students. One of the ways to achieve it is to develop the mastery of learning skills (Mega, Ronconi & De Beni, 2014) to enable the students to move towards their self-directed learning. Learning skills are learned and built during their focus in the process of learning and teaching in classroom for their future lifelong learning (Saemah Rahman & Siti Fatimah Mohd Yassin, 2009). The long-term results that can be gained from the teaching process are the enhancement of learning skills that enable the students to learn more effectively.

This goal can be achieved if students have mastered the learning process or they have learned how to learn. Training the learners to learn how to learn is the general essence of the overall purpose of the educational process, in particular to achieve lifelong learning objectives that are crucial in providing them with the 21st century changes and challenges. Learning skills are among the skills that have the added value that students need to master so that they are sensitive and able to master more effective learning techniques. Among the learning skills that can enhance students' ability is metacognitive approach in learning. Through meta cognitive approach, students can learn, think and also improve the quality of the learning process (Suriani Yusoff & Saemah Rahman, 2011). It is very natural that this student is provided with a learning strategy so that students succeed in taking responsibility which have placed on their shoulders. Thus, the objective of this study is to identify the ways to help the students to improve their mathematical achievement among high school students. Specifically, this study aims to determine the type of learning strategies among multi-ethnic students in Miri, Sarawak.

2. LEARNING STRATEGY THEORY

Pintrich, Smith, Garcia and McKeachie (1991) have made manuals on use. The Motivation Strategy for Learning Questionnaire (MSLQ) which categorizes self-directed learning into two key strategies. The first is cognitive and a cognitive strategy that includes rehearsal, elaboration, organisation, critical thinking and metacognitive self-regulation. The second strategy is the resource management strategy which encompasses the time and school environment, regulatory efforts, peer learning and seeking help.

The rehearsal strategy involves reading journal or saying aloud in reading, highlighting and outlining the text (Pintrich et al., 1991). This strategy can help students grab and focus on important points of the eye rather than reading texts. Furthermore, it can help students to keep information in their memory. Therefore, the attention and coding process of the student will lead to good academic achievement. Organizational strategies are a more in-depth processing strategy that includes activities such as choosing key ideas after reading texts, outlining texts or reading materials, and using a variety of technical techniques for selecting and organizing ideas such as network sketches and mapping key ideas (Pintrich, 1999). These activities indicate that students are actively involved in task and achieving better performance. Time management includes activities such as scheduling, planning and managing a time of study. The environmental management of the study refers to the setting in which the student performs their duties. Students must be able to manage and regulate their time and learning environment and can adapt and change according to the environment. Selected self-esteemed learners, structures and create learning-optimized environments (Zimmerman & Martinez-Pons 1986). In addition, Zimmerman et al., (1994) found that time management helps students to control their study time correctly and can indirectly improve their academic performance. Peer learning strategies include collaborative activities, communication and discussion with peers during the learning process (Pintrich et al., 1991). This activity can help students to explain their learning material. These activities are usually found in cooperative learning as students will interact with their peers in the group. In summary, the learning strategy encompasses the following nine methods:

- Rehearsal
- Organizing
- Elaboration
- Critical thinking
- Self-learning metacognition
- Time management and learning environment
- Effort-regulation
- Peer learning
- Looking for help

3. LITERATURE REVIEW

A study by Aziz and Hossain (2010) found that students' mathematical achievement at the Sreepur Adarsha School of Bangladesh, increased after they used group learning methods. Learning by this method can also increase the motivation of each group member to continue to excel in maths. Students who have opted for mathematics to continue their higher education level at times have lost their motivation to continue their choice. The phenomenon of missing motivation is said to be solved by some students with these small study groups (Duah et al., 2014).

The student learning strategy was assessed by the MSLQ questionnaire developed by Pintrich (1995, 2000), which is a measure of self-learning. The statement is a reply by using the seven Likert scale, from 1 (not really true to me) to 7 (very true about me). Because the focus of the study is on self-regulation, self-learning metacognitive, cognitive and management skills, only nine self-regulators. Questionnaire subscale has been used. This subscale discusses metacognition, elaboration, critical thinking, organization, rehearsal, time management, effort regulation, peer learning and seek help. Pintrich, Smith, Garcia & McKeachie (1991) have made manuals on use Motivational Strategy for Learning Questionnaire (MSLQ) that categorizes self-learning into two key strategies. The first is cognitive and a cognitive strategy that includes rehearsal, paranormal, organizational, critical

self-reflection and self-metacognition. The second strategy is the resource management strategy which encompasses the time and school environment, effort regulation, peer learning and seeking help. The questionnaire was adopted from The Motivational Strategy for Learning Questionnaire (MSLQ) originally developed by Pintrich et al. (1991). This instrument is one of the most numerous frequently used (see examples Wolters, Yu & Pintrich, 1996; Mousoulides & Philippou 2005). Questionnaires consist of Parts A and B. Table 1 includes each section of the questionnaire and measurement used. There are four learning strategies selected for this study ie; Rehearsal, Organization, Time and Environment Peer Study and Learning. The rehearsal strategy involves reading or saying aloud in reading, highlighting and outlining the text (Pintrich et al., 1991). This strategy can help students grab and focus on important points of the eye rather than reading texts. Furthermore, it can help students to keep information in their memory. Therefore, the attention and coding process of the student will lead to good academic achievement.

Organizational strategy is a more in-depth processing strategy that includes activities such as choosing the main idea after reading text, outline text or read materials and use a variety of specific techniques for selecting and organizing ideas such as network sketches and key idea mapping (Pintrich, 1999). These activities show that students are actively involved in task and should produce better performance. Time management includes activities such as scheduling, planning and managing a time of study. Environmental management studies refer to the setting in which students perform their class assignments. Students must be able to manage and regulate their time and learning environment they can adapt and change according to the environment. Selected self-esteemed students, structures and create an optimized environment learning (Zimmerman & Martinez-Pons, 1986). In addition, Zimmerman et al. (1994) found that the time management helped students to control learning time correctly and indirectly can improve their academic performance. Communication and discussion with peers can helping students to explain further reading materials. Peer learning strategies include collaborative activities, communication and discussion with peers during the learning process (Pintrich, et al., 1991). Activity can help students to explain further learning material. These activities are usually found in cooperative learning as students will interact with their peers in the group. Smith and Spindle (2007) found that accounting student chose a group that provided cooperative learning effectively and this affected their academic achievement. Studies on accounting student also show that cooperative learning has the potential to increase student satisfaction and interactions.

3.1. Research Question

- What are the types of learning strategies among multi-ethnic students in Miri, Sarawak, Malaysia?

4. RESEARCH OBJECTIVE

- Identify the types of learning strategies among multi-ethnic students in Miri, Sarawak.

5. RESEARCH METHODOLOGY

5.1. Population and Sampling

The population of this study consists of all four form four students, namely 2130 students as in Table 3.1. The Miri Division is a multi-ethnic city in Sarawak, the strata of this study are categories according to the respondent criteria as shown in Table 1 below. They are 532 students involve in this study.

Table1: Respondent

No	School	No of form 4 students	Percentage	No of sample
1	SMK Chung HuaMiri	305	305 X 25%	76
2	SMK St Joseph	128	128 X 25%	32
3	Kolej	182	182 X 25%	45
4	SMK Merbau	537	537 X 25%	134
5	SMK Baru	129	129 X 25 %	32
6	SMK Lopeng Tengah	125	125 X 25%	31
7	SMK Agama	117	100 X 25%	29
8	SMK Riam	120	120 X 25%	30
9	SMK Luak	74	74 X 25%	19
10	SMK Pujut	198	198 X 25%	50
11	SMK Taman Tunku	215	215 X 25%	54
	Total	2130	2130 X 25%	532

5.2. Research Instruments

Questionnaire was used to collect data in this research. The questionnaire consists of Part A (respondent profile), and Part B (learning strategy). The research instrument used in this study was originally in the English version and was translated into Malay language.

5.3. Part B: Learning Strategy

Instruments that measure the learning strategy variables are also modified from the Motivation Strategy Questionnaire for Learning Questionnaire (MSLQ) created by Pintrich, Smith, Garcia & McKeachie (1991). Learning strategy questionnaire consists of nine dimensions: i) Rehearsal ii) elaborating, iii) organizing, iv) critical thinking, v) self-learning metacognition, vi) time management and learning environment, vii) Effort Regulation, viii) Peer Learning and ix) seeking for help. A total of 57 items in this section.

Table2: No. of items according to each domain

Part	Variables	Domain	No of Item
A	Demography		7
B	Learning strategy	Rehearsal	4
		Elaboration	6
		Organisasing	4
		Critikal Thinking	5
		Self Metacognition Learning	12
		Time Management and Environmental Learning	8
		Effort Regulation	4
		Peer Learning	3
		Seeking for help	4
		Total of Item	57

6. RESEARCH FINDINGS

Descriptive analysis of the dimensions of the four ethnic learning strategies is based on the mean score of each factor separately, namely rehearsal, elaborating, organizing, critical thinking, self-learning metacognition, time management and learning environment, effort regulation, peer learning and seeking for help. Measurement of learning strategy stage is done using likert scale 1 (Very False) to 7 (Very True).

The study found that the highest mean of dimension learning strategies of Malay ethnic was seeking for help (M = 4.65, SP = 1.05), followed by self-learning metacognition (M = 4.62, SD= 0.96) (M = 4.51, SP = 1.21), rehearsal (M = 4.51, SD = 1.13), elaborating (M = 4.48, SD = 1.07), time management and learning environment (M = 4.43, SD= 1.16) , organizing (M = 4.42, SD = 1.05) and the lowest mean is self-esteem factor (M = 4.18, SD = 0.99) (Table 4.15).

The findings showed that the highest mean of learning strategy dimension of Chinese ethnic is effort regulation (M = 4.16, SD = 0.87). (M = 4.04, SD = 0.94), self-learning metacognition (M = 4.07, SD = 0.84), time management and learning environment (M = 4.03, SD = 1.10) (M = 4.01, SD = 0.99), rehearsal (M = 4.01, SD = 1.00), elaboration (M = 3.97, SD = 1.02) and the lowest mean is critical thinking factor (M = 3.96, SD = 0.78).

The study found that the highest mean of learning strategy dimension of Dayak ethnic is peer learning factor (M = 4.79, SD = 1.19), followed by seeking for help (M = 4.61, SD = 0.90), self-learning metacognition (M = 4.49, SD = 0.93 (M = 4.46, SD = 1.07), effort regulation (M = 4.18, SD = 0.99), elaboration (M = 4.32, SD = 1.04), critical thinking (M = 4.29, SD = 0.99) and the learning environment (M = 4.26, SD = 1.01) and the lowest mean is the organizing factor (M = 4.02, SD = 1.21).

For Ulu people, the findings showed that the highest mean of learning strategy dimension is Peer Learning (M = 4.57, SD = 0.84), followed by seeking for help (M = 4.45, SD = 1.00), self-learning metacognition (M = 4.35, SD = 0.85 (M = 4.29, SD = 0.96), rehearsal (M = 4.23, SD = 0.91), critical thinking (M = 4.21, SD = 0.69) and the learning environment (M = 4.43, SD = 1.16) and the lowest mean is the organizing factor (M = 4.42, SD = 1.05).

Table4: Mean and standard division of each dimension of Learning strategy according to ethnic

	Malay		Chinese		Dayak		Ulu		Overall	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Rehearsal	4.51	1.13	4.01	1.00	4.46	1.07	4.23	0.91	4.31	1.06
Elaboration	4.48	1.07	3.97	1.02	4.32	1.04	4.17	1.01	4.25	1.06
organizing	4.42	1.05	4.01	0.99	4.02	1.21	3.64	0.71	4.09	1.05
Critical Thinking	4.51	0.91	3.96	0.78	4.29	0.99	4.21	0.96	4.25	0.88
Metacognition	4.62	0.96	4.07	0.84	4.49	0.93	4.35	0.85	4.39	0.93
Time management	4.43	1.16	4.03	1.10	4.26	1.01	4.01	1.02	4.21	1.10
Effort- regulation	4.18	0.99	4.16	0.87	4.42	0.90	4.29	0.96	4.24	0.94
Peers	4.51	1.21	4.02	1.20	4.79	1.19	4.57	0.84	4.44	1.18
Seeking help	4.65	1.05	4.14	0.94	4.61	0.90	4.45	1.00	4.46	1.00
Overall	4.48	0.87	4.04	0.79	4.41	0.79	4.22	0.61	4.29	0.81

The findings showed that all dimensions have a mean value of 4.01 to 5.00 (Table 5) which is at moderate high level. (M = 4.46, SD = 1.18), self-learning metacognition (M = 4.39, SD = 0.93) (M = 4.25, SD = 1.06), critical thinking (M = 4.25, SD = 0.58), effort regulation (M = 4.24, SD = 0.84) learning environment (M = 4.21, SD = 1.10) and the lowest mean is the organizing factor (M = 4.09, SD = 1.05)

Table5: Profile of Learning Strategies

Learning Strategies	N	Mean	Standard Division	Level
Rehearsal	602	4.31	1.06	Moderately High
Elaborating	602	4.25	1.05	Moderately High
Organizazing	602	4.09	1.05	Moderately High
Critical Thinking	601	4.25	0.88	Moderately High
Metacognition	602	4.39	0.93	Moderately High
Time management	602	4.21	1.10	Moderately High
Self – Regulation	602	4.24	0.94	Moderately High
Peers	600	4.44	1.18	Moderately High
Seeking help	602	4.46	1.00	Moderately High

7. DISCUSSIONS

The overall findings showed that all of the dimensions of learning strategies are in moderately high level. The mean of all the dimensions are in between 4.09 to 4.46. The findings of the study showed that the dimensions of seeking help was the highest and followed by peer learning dimensions and the lowest was the dimension of organizing among the multi - ethnic groups in Miri. The highest mean of learning strategies for Malay is seeking for help, and effort regulation for Chinese whereas Ulu and Dayak are peers dimension.

The descriptive report for the dimensions of the learning strategy will be detailed by examining each ethnic group separately, in particular, ethnic Malay, ethnic Sarawak, ethnic Chinese Sarawak, Dayak and Ulu. This breakdown is made to see a more in-depth comparison of strategies for each ethnic group.

For Malay ethnic, their domain of learning strategy are critical thinking, peer learning, rehearsal, elaboration, time management and learning environment, organizing and the lowest mean is effort-regulation. This finding showed that the dimensions of seeking help are the most robust among Malay ethnic learning strategies.

The findings showed that the highest mean of learning strategy dimension of Chinese ethnic is effort regulation, self-learning metacognition, time management and learning environment, rehearsal, disassembly and the lowest mean is critical thinking factor. The study found that the highest mean of learning strategy dimension of Dayak ethnic is peer learning factor, followed by seeking for help, self-learning metacognition, self-esteem, elaboration, critical thinking and the learning environment and the lowest mean is the organizing factor.

For Ulu, the findings showed that the highest mean of learning strategy dimension is peer learning, followed by seeking for help, self -learning metacognition, rehearsal, critical thinking and the learning environment and the lowest mean is the organizing factor

8. CONCLUSION

Overall, this study found that the level of each learning strategy is moderate. The learning strategy has played a very important role in the learning process of a student. Each student has a unique learning strategy to achieve good results in his or her education. These findings can help educators understand the kind of learning strategies that are more appropriate for their different ethnic groups. Different ethnic groups should focus on different learning strategies in their learning process. With this, their level of learning or achievement in the lesson can be improved.

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