



Self Assessment of Second Level Students' Learning Style

Zuraini Jusoh

Malay Language Department Faculty of Modern Language and Communication,
Universiti Putra Malaysia
Email: zurainijusoh@upm.edu.my

Samsilah Roslan

Foundations of Education Department Faculty of Educational Studies Universiti Putra
Malaysia
Email: samsilah@upm.edu.my

Roshafiza Hassan

Faculty of Education and Social Sciences Open University Malaysia
Email: roshafizahassan@gmail.com

To Link this Article: <http://dx.doi.org/10.6007/IJARPED/v13-i1/20975>

DOI:10.6007/IJARPED/v13-i1/20975

Published Online: 22 February 2024

Abstract

Every student has a different learning style. To produce effective teaching and learning activities, teachers need to identify their students' learning styles. For that, this study was conducted to identify the learning style of second grade students in a classroom. A set of questionnaires modified from Chislett and Chapman (2005) was used to find out whether the studied students have a visual, auditory or kinesthetics learning style. A total of 32 students have been involved in this study consisting of various races. The selection of this group of students is made randomly, that is, the teacher is made sure to teach two second-level classes that are equivalent to their academic achievement. Using a simple random method, these two classes are determined to either represent the experimental group or the control group. Only the students of the experimental group underwent a learning style self-assessment test that will learn composing skills using different teaching modules. Once the student's learning style is identified, different teaching modules are created and used according to the student's learning style. However, for this paper, what will be discussed is the findings of the student self-assessment test which is the initial process of this quasi-experimental study. The results of the study show that more students studied have an auditory learning style, which is as many as 14 people. Meanwhile, the visual and kinesthetics learning styles were nine people each.

Keywords: Self-assessment, Student Learning Style, Different Teaching, Composing Skills, Second Grade Students, Malay Language Subjects

Introduction

Learning style is the way that a person highlights during the learning process (Wahid & Bukhari, 2016). There are various theories and models of learning styles. Among them are Kolb Learning Style Model, VAK Learning Preference, 4MAT Learning Style Model, Fleming's VAK Model and so on. The variety of theories and models developed by these researchers has proven the importance of learning styles or learning styles being examined to ensure that students get an effective education that suits them. This is because according to Marpaung (2015), students who are forced to study in a way that is not suitable, and which is not interesting to them are likely to hinder their learning process. Students are not only not getting the knowledge they need, but it also affects their willingness to learn.

Ishak (2015) thinks that the learning style practiced by a student can determine the effectiveness of their learning process. Of course, if the teaching approach used by the teacher is appropriate, students will be more ready to learn. Indirectly, this will create interest and motivation to study for them. Finally, the effectiveness of this learning process can be observed or seen as a result through the behaviour shown as well as the academic achievement of these students. Therefore, learning style is one of the important elements to ensure that a student can learn well (Kamaruddin & Mohamad, 2011).

Meanwhile, the different teaching approaches that are tried to be applied in this research refer to teaching methods that address and accommodate students' differences in terms of readiness, interest and learning profile (Sousa & Tomlinson, 2011). This concept of differential learning has been widely used in other countries (Chen & Chen, 2018; de Graaf, Westbroek & Janssen, 2019; Freedberg, Bondie, Zusho, & Allison, 2019; Harmini & Effendi, 2018; Robinson, Maldonado, & Whaley, 2014; Tomlinson & Imbeau, 2010; Wu, 2013). In relation to that, once the student's learning style is identified, the teacher applies a different teaching approach, which is a teaching approach that is suitable for the learning needs of each student in a class.

Literature Review

Research on past studies shows that studies on learning styles or learning styles have been done a lot. This study involves various levels of education, from primary school to higher education. In fact, it involves research on certain subjects and groups of pupils or students. Among them is a study by Khoeron, Sumarna and Permana (2014) that examines the influence of learning styles on the performance of students at SMK Negeri 8 in Bandung, Indonesia. The focus of this study is on productive subjects, or the main subjects studied by students. As a result, the findings of the study found that these students tend to use an auditory learning style, followed by a visual and kinesthetics learning style.

The study conducted by Ishak (2015) was conducted among fourth grade students. For this study, the researcher used the VARK (visual, auditory, reading, kinesthetics) learning style model developed by (Fleming, 1987). As a result, the findings of the study show that the fourth-grade students who were studied used the visual learning style the most, followed by the auditory learning style. Meanwhile, the reading/writing and kinesthetics learning styles have a moderate level of mean value strength.

A study of learning styles among slow students, which refers to children who are weak in terms of reading, writing, and counting skills at a certain age level, was also conducted by

Wahid and Bukhari (2016). These students have been identified and enrolled into the Special Integration Education Program (PPKI). The results of the study show that these students predominantly use visual learning styles followed by kinesthetics and auditory learning styles. The study conducted by Vhalery et al (2019) involved students in higher education. A total of 167 students who took the Economic Mathematics course at Universitas Indraprasta PGRI Jakarta were selected as the study sample. As a result, the study found that these students use a kinesthetics learning style. This is proven when the correlation analysis conducted shows the existence of the influence of kinesthetics learning style on student learning activities. On the other hand, there is no influence of visual and auditory learning styles on student learning activities.

Based on this past study, it can be concluded that learning style depends on the tendency of a student. This statement is in line with the views of Kamaruddin and Mohamad (2011) who state that the learning style practiced by everyone is different and begins to be formed since childhood and may be influenced by certain factors. In fact, Mustaffa (2007) who conducted a study on first year students at Universiti Kebangsaan Malaysia thinks it is very difficult for students to make changes in their learning style. This is because these students have their own learning style. Although a person's learning style is influenced by many factors, forcing a person to use a learning style that is not their inclination is difficult. This action is also likely to affect their performance. Therefore, it can be concluded from these past studies that the study of learning styles is important. Through this continuous study, educators, whether teachers or lecturers, can identify the tendencies of their students. Next thing to do is, to adjust and diversify learning styles so that every student has the same learning opportunity and does not fall behind in learning.

Methodology

This survey is a preliminary survey to identify the learning style of the students being studied. Once the student's learning style is identified, a different teaching approach module is built. Based on this module, students learn composing skills according to their respective learning styles. For that, a set of questionnaires modified from the VAK Learning Styles Self-Assessment instrument by Chislett and Chapman (2005) was used. The original instrument contained 30 items, but to adapt to this study, three items were removed, namely items number 9, 14 and 30. A total of 27 items were used to measure the learning style of second form students in a school in the state of Johor.

The students who took this learning style self-assessment test were students of the experimental group. They were exposed to different teaching modules for nine weeks as shown in Table 1 below

Table 1

Research Implementation Period

G	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12
E	O _{1.1}	Treatment of Different Teaching Approaches					O _{2.1}	4 Week Gap to Test Memory of Past Teaching and Learning				O _{3.1}
C	O _{1.1}	Control of Existing Teaching Approaches					O _{2.1}					O _{3.1}

The students of the control group act as a benchmark for the processing changes that happened to the students of the experimental group who received teaching treatment using different teaching modules. Therefore, before the students are taught the skill of composing Malay language using different teaching modules, they first need to take a learning style self-assessment test.

The modified learning style self-assessment item from Chislett and Chapman (2005) was piloted to a sample of 30 people. Findings show that the item's reliability is appropriate, Cronbach's Alpha = 0.748. This is based on the views of Guilford and Fruchter (1956) who suggest a value of $\alpha = 0.7$ is the most satisfactory for measuring one of the research variables. Meanwhile, Pallant (2011) thinks that $\alpha = 0.7$ and above is good for items 10 and above. This modified item has also gone through the translation process and has been reviewed by experts twice, to ensure that the translation and meaning are adapted to the culture of the local community and do not stray from the meaning of the original instrument. This questionnaire is divided into two parts. The first part is, student demographic information such as gender, race, and family background. In the second part, students are asked to choose the answer that best represents their behaviour when faced with the specified situation to measure learning style.

Findings

Based on Table 2, it was found that the number of samples according to gender is the same, which is as many as 16 men and women respectively. The demography of the sample by race shows that more than half of the sample is Malay, which is 17 (53.1%) people. This is followed by 9 Chinese (28.1%) and 5 Indians (15.6%). Other races are only 1 (3.1%). More than half of the sample also has a family background, that is, parents who speak fluent Malay, which is as many as 18 (56.3%). On the other hand, only one sample had parents with basic knowledge of Malay.

Table 2

Sample Demographic Information

Variables		Experimental Group (n=32)	
		Frequency	Percent
Gender	Male	16	50%
	Female	16	50%
Race	Malay	17	53.1%
	Chinese	9	28.1%
	Indian	5	15.6%
	Others	1	3.1%
Family Background	Parents can speak fluently in Malay language	18	56.3%
	Parents have moderate knowledge in Malay language	13	40.6%
	Parents have basic knowledge in Malay language	1	3.1%

Table 3 shows the results of the learning style of the study sample, that is whether they use a visual, auditory or kinesthetics learning style. Students are classified as having a visual learning style when there are more answer choices for an item A. Students are said to have an auditory learning style when there are a lot of answer choices B and answer choices C show that students have a kinesthetics learning style. As a result, most of the students studied have an auditory learning style when as many as 14 (43.8%) students in this category and 9 (28.1%) each have a visual and kinesthetics learning style.

Table 3

Sample Learning Styles

No.	Sample	Learning Style			Group
		Visual	Auditory	Kinesthetic	
1	Sample 1	8	14	5	2
2	Sample 2	8	7	12	3
3	Sample 3	10	7	10	3
4	Sample 4	8	13	6	2
5	Sample 5	14	11	2	1
6	Sample 6	7	10	6	2
7	Sample 7	4	13	10	2
8	Sample 8	11	8	8	1
9	Sample 9	7	12	8	2
10	Sample 10	8	8	10	3
11	Sample 11	4	9	14	3
12	Sample 12	12	10	5	1
13	Sample 13	9	7	11	3
14	Sample 14	9	11	7	2
15	Sample 15	17	5	5	1
16	Sample 16	13	10	4	1

17	Sample 17	10	14	3	2
18	Sample 18	10	8	9	1
19	Sample 19	6	21	0	2
20	Sample 20	9	13	5	2
21	Sample 21	11	8	8	1
22	Sample 22	8	10	9	2
23	Sample 23	6	20	1	2
24	Sample 24	5	9	13	3
25	Sample 25	13	10	4	1
26	Sample 26	11	10	6	1
27	Sample 27	8	12	7	2
28	Sample 28	5	16	6	2
29	Sample 29	6	9	12	3
30	Sample 30	10	7	10	3
31	Sample 31	10	11	6	2
32	Sample 32	7	9	11	3

The answer range of the sample showing a visual learning style is between 10 to 17, auditory ranges between 10 to 21, kinesthetics between 10 to 14. Samples categorized as having a visual learning style are Sample 5, Sample 8, Sample 12, Sample 15, Sample 16, Sample 18, Sample 21, Sample 25, and Sample 26. Samples categorized as having an auditory learning style are Sample 1, Sample 4, Sample 6, Sample 7, Sample 9, Sample 14, Sample 17, Sample 19, Sample 20, Sample 22, Sample 23, Sample 27, Sample 28, and Sample 31. Meanwhile, students in the kinesthetics learning style category are Sample 2, Sample 3, Sample 10, Sample 11, Sample 13, Sample 24, Sample 29, Sample 30, and Sample 32.

Table 4
Frequency and Percentage of Answer Choices

Item	Statement	Answer Choices		
		A	B	C
1	When I operate new equipment, I generally:	15	10	7
	a) read the instructions first	(46.9%)	(31.3%)	(21.9%)
	b) listen to an explanation from someone who has used it before			
	c) go ahead and have a go, I can figure it out as I use it			
2	When I need directions for travelling, I usually:	9	20	3
	a) look at a map and compass	(28.1%)	(62.5%)	(9.4%)
	b) ask for spoken directions			
	c) follow my nose			
3	When I cook a new dish, I like to:	22	3	7
	a) follow a written recipe	(68.8%)	(9.4%)	(21.9%)
	b) call a friend for an explanation			
	c) follow my instincts, testing as I cook			

4	If I am teaching someone new, I tend to:	7	16	9
	a) write instructions down for them	(21.9%)	(50.0%)	(28.1%)
	b) give them a verbal explanation			
	c) demonstrate first and then let them have a go			
5	I tend to say:	13	13	6
	a) watch how I do it	(40.6%)	(40.6%)	(18.8%)
	b) listen to me explain			
	c) you have a go			
6	During my free time I most enjoy:		24	8
	a) going to museums and galleries		(75.0%)	(25.0%)
	b) listening to music and talking to my friends			
	c) playing sport or doing DIY			
7	When I go shopping for clothes, I tend to:	17	3	12
	a) imagine what they would look like on	(53.1%)	(9.4%)	(37.5%)
	b) discuss them with the shop staff			
	c) try them on and test them out			
8	When I am choosing a holiday, I usually:	11	8	13
	a) read lots of brochures	(34.4%)	(25.0%)	(40.6%)
	b) listen to recommendations from friends			
	c) imagine what it would be like to be there			
9	When I am learning a new skill, I am most comfortable:	14	6	12
	a) watching what the teacher is doing	(43.8%)	(18.8%)	(37.5%)
	b) talking through with the teacher exactly what I'm supposed to do			
	c) giving it a try myself and work it out as I go			
10	If I am choosing food off a menu, I tend to:	6	12	14
	a) imagine what the food will look like	(18.8%)	(37.5%)	(43.8%)
	b) talk through the options in my head or with my partner			
	c) imagine what the food will taste like			
11	When I listen to a band, I can't help:	4	24	4
	a) watching the band members and other people in the audience	(12.5%)	(75.0%)	(12.5%)
	b) listening to the lyrics and the beats			
	c) moving in time with the music			
12	When I concentrate, I most often:	11	10	11
	a) focus on the words or the pictures in front of me	(34.4%)	(31.3%)	(34.4%)

	b) discuss the problem and the possible solutions in my head			
	c) move around a lot, fiddle with pens and pencils and touch things			
13	My first memory is of:	14	8	10
	a) looking at something	(43.8%)	(25.0%)	(31.3%)
	b) being spoken to			
	c) doing something			
14	When I am anxious, I:	7	21	3
	a) visualise the worst-case scenarios	(21.9%)	(65.6%)	(9.4%)
	b) talk over in my head what worries me most			
	c) can't sit still, fiddle and move around constantly			
15	I feel especially connected to other people because of:	1	9	22
	a) how they look	(3.1%)	(28.1%)	(68.8%)
	b) what they say to me			
	c) how they make me feel			
16	When I have to revise for an exam, I generally:	6	18	8
	a) write lots of revision notes and diagrams	(18.8%)	(56.3%)	(25.0%)
	b) talk over my notes, alone or with other people			
	c) imagine making the movement or creating the formula			
17	If I am explaining to someone I tend to:	10	20	2
	a) show them what I mean	(31.3%)	(62.5%)	(6.3%)
	b) explain to them in different ways until they understand			
	c) encourage them to try and talk them through my idea as they do it			
18	I really love:	8	17	7
	a) watching films, photography, looking at art or people watching	(25.0%)	(53.1%)	(21.9%)
	b) listening to music, the radio or talking to friends			
	c) taking part in sporting activities, eating fine foods and wines or dancing			
19	Most of my free time is spent:	15	4	13
	a) watching television	(46.9%)	(12.5%)	(40.6%)
	b) talking to friends			
	c) doing physical activity or making things			

20	When I first contact a new person, I usually:	9	13	10
	a) arrange a face to face meeting	(28.1%)	(40.6%)	(31.3%)
	b) talk to them on the telephone			
	c) try to get together whilst doing something else, such as an activity or a meal			
21	I first notice how people:	11	17	4
	a) look and dress	(34.4%)	(53.1%)	(12.5%)
	b) sound and speak			
	c) stand and move			
22	If I am angry, I tend to:	15	9	8
	a) keep replaying in my mind what it is has upset me	(46.9%)	(28.1%)	(25.0%)
	b) raise my voice and tell people how I feel			
	c) stamp about, slam doors and physically demonstrate my anger			
23	I find it easiest to remember:	11	10	11
	a) faces	(34.4%)	(31.3%)	(34.4%)
	b) names			
	c) things I have done			
24	I think that you can tell if someone is lying if:	20	4	7
	a) they avoid looking at you	(62.5%)	(12.5%)	(21.9%)
	b) their voices changes			
	c) they give me funny vibes			
25	When I meet an old friend:	11	13	7
	a) I say "it's great to see you!"	(34.4%)	(40.6%)	(21.9%)
	b) I say "it's great to hear from you!"			
	c) I give them a hug or a handshake			
26	I remember things best by:	12	17	2
	a) writing notes or keeping printed details	(37.5%)	(53.1%)	(6.3%)
	b) saying them aloud or repeating words and key points in my head			
	c) doing and practising the activity or imagining it being done			
27	If I have to complain about faulty goods, I am most comfortable:	5	13	13
	a) writing a letter	(15.6%)	(40.6%)	(40.6%)
	b) complaining over the phone			
	c) taking the item back to the store or posting it to head office			

Based on the student's answer choices based on the self-assessment test, it was found that many students marked answer choice B, which is 14 times. This is followed by answer choice A, which is 11 times and answer choice C 6 times. There are also four questions that have the same number of answer choices, namely items 5, 12, 23 and 27. Item 5, there are 13 (40.6%) students who choose answers A and B. For item 12, there are 11 (34.4%) who chose answers A and C. For item 23, as many as 11 (34.4%) chose answers A and C. The same happened with item 27 when as many as 13 (40.6%) students chose answers B and C.

Discussion

Chislett and Chapman (2005) stated that a student's learning style is not necessarily just one, it maybe two or more. It depends on how a student can focus while studying. According to Sadiq and Hassan (2021), learning style is something consistent, which is the way students act and use stimuli in the context of learning.

If you look at the results of this study, second form students in a school in the state of Johor, dominantly use the auditory learning style. These students are more inclined to the sense of hearing to acquire the knowledge presented by the teacher. Therefore, appropriate teaching approaches for these students are lectures, telling stories, listening to recordings and so on.

Visual learning style students prefer a teaching approach that involves the sense of sight. They learn more easily when the teacher uses pictures or images, maps, colours, drawings and so on. Meanwhile, students with a kinesthetics learning style learn through movement, action and touching the materials or teaching activities provided. Students in this category prefer to explore learning activities. They like it when teaching is carried out practically and not just theoretically.

It can be summarized here that it is important for educators to know the learning style of their students. This is because by knowing the learning style, students have strategies to improve learning performance (Marpaung, 2015). They are more willing to learn, motivated and involved in learning.

Declaration of Conflicting Interest

The authors state that there is no conflict of interest concerning the publication of this article.

Funding Acknowledgement

This article was written as a result of the Putra grant study entitled "Effect of Differentiated Instruction Method in Collaborative Learning on Problem Solving, Creative and Innovative Behaviour" with project number GP/2018/9650800 and funded by Universiti Putra Malaysia.

Corresponding Author

Zuraini Jusoh

Department of Malay Language, Faculty of Modern Languages and Communication, Universiti Putra Malaysia

Email: zurainijusoh@upm.edu.my

Reference

- Chen, J. H., & Chen, Y. C. (2018). Differentiated Instruction in a Calculus Curriculum for College Students in Taiwan. *Journal of Education and Learning*, 7(1):88-95.
- Chislett & Chapman. (2005). VAK Learning Style Self-Assessment Questionnaire. Retrieved from www.businessballs.com Accessed January 6, 2019.
- De Graaf, A., Westbroek, H., & Janssen, F. (2019). A Practical Approach to Differentiated Instruction: How Biology Teachers Redesigned Their Genetics and Ecology Lessons. *Journal of Science Teacher Education*, 30(1): 6–23.
- Fleming, N. (1987). Retrieved from https://www.liquisearch.com/learning_styles/models/neil_flemings_vakvark_model Accessed November 10, 2022.
- Freedberg, S., Bondie, R., Zusho, A., & Allison, C. (2019). Challenging students with high abilities in inclusive math and science classrooms. *High Ability Studies*, 30(1–2), 237–254.
- Guilford, J. P., & Fruchter, B. (1956). *Fundamental Statistics in psychology and Education*. New York: McGraw-Hill Book.
- Harmini, T., & Effendi, L. (2018). The effect of the use of differentiated instruction-based module on students' learning motivation. *UNNES Journal Of Mathematics Education*, 7(3), 141–146.
- Ishak, A. (2015). Hubungan antara Personaliti dan Gaya Pembelajaran dalam Kalangan Pelajar Tingkatan Empat SMK Daerah Skudai, Johor. *Humanika*, 1(1):9-18.
- Kamaruddin, M. I., & Mohamad, A. (2011). Kajian Gaya Pembelajaran dalam Kalangan Pelajar UTM. *Journal of Educational Psychology and Caunseling*, 2:51-77.
- Khoeron, I. R., Sumarna, N., & Permana, T. (2014). Pengaruh Gaya Belajar terhadap Prestasi Belajar Peserta Didik pada Mata Pelajaran Produktif. *Journal of Mechanical Engineering Education*, 1(2): 291-297.
- Marpaung, J. (2015). Pengaruh Gaya Belajar terhadap Prestasi Belajar Siswa. *Jurnal KOPASTA*, 2(2):13-17.
- Mustaffa, R. (2007). Mengadaptasi Gaya Pembelajaran Pelajar ESL: Satu Kajian Kes Pelajar Tahun Satu di UKM. *GEMA Online Journal of Language Studies*, 7(1): 1-32.
- Pallant, J. (2011). *SPSS Survival Manual: A step by step guide to data analysis using SPSS program 4th ed*. Berkshire: Allen & Unwin.
- Sadiq, M. J. F. W., & Hassan, M. M. (2021). Konsep Kendiri dan gaya Pembelajaran terhadap Motivasi Akademik dalam kalangan Mahasiswa. *Malaysia Journal of Social Sciences and Humanities (MJSSH)*, 6(2):75-105. DOI: <https://doi.org/10.47405/mjssh.v6i2.683>
- Sousa, D. A., & Tomlinson, C. (2011). *Differentiation and the brain*. Bloomington: Solution Tree Press.
- Tomlinson, C. A., & Imbeau, M. B. (2010). *Leading and Managing a Differentiated Classroom*. Alexandria, VA:ASCD.
- Vhalery, R., Hartono, D., & Leksono, A. W. (2019). Kontribusi Gaya Belajar pada Aktiviti Belajar Matematika Ekonomi. *Jurnal Pendidikan Ekonomi*, 12(2): 78-86. <https://dx.doi.org/10.17977/UM014v12i22019p78>
- Wahid, A. P. R., & Bukhari, N. A. (2016). Gaya Pembelajaran Kanak-kanak Lembam dalam Pembelajaran Bahasa Melayu. *Jurnal Bahasa*, 16(2): 323-348.
- Wu, E. H. (2013). The Path Leading to Differentiation: An Interview With Carol Tomlinson. *Journal of Advanced Academics*, 24(2):125–133.