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LEARNING STYLES AMONG MASTERSKILL NURSING STUDENTS IN KOTA BAHRU, KELANTAN

Saripah Kamarul Jamal, Chan Siok Gim*

Open University Malaysia Kelantan, Malaysia

**Corresponding Author Email: siokgimchan@yahoo.com*

ABSTRACT

Learning style is more than merely individual behaviors, we need to explore and examine a person's inclinations towards learning in a holistic manner (Dunn & Thies, 2001). In this study, a total of 130 nursing students at Masterskill College were chosen to answer the questionnaire constructed to ascertain the types of learning styles they employed. The study also examined gender differences and other factors contributing to different Learning Styles. The most important factor examined is the significance of Learning Styles on their academic achievement. The study showed that there were only significant gender differences for Emotional Learning Style as females employed such form of learning far more than the males. There were no significant differences in Learning Styles according to academic achievement, however high achievers preferred environmental and physical learning styles while average achievers preferred emotional and social learning styles. The low achievers preferred the psychological learning styles. Age differences existed only for environmental learning styles; older students are more inclined towards environmental learning styles, but the younger ones are more willing to experience all the learning styles available. Their places of residence did not seem to influence their learning styles, but students from the rural areas were more willing to indulge all types of learning styles. Similarly, income brackets did not influence their learning styles, but the students of average income families were more flexible in their learning styles.

Keywords : Learning styles, Nursing students, Academic achievement, Gender differences

INTRODUCTION

Learning styles practiced by the students are influenced by environmental, emotional, sociological, physical and psychological factors (Dunn & Dunn, 1978). The learning styles of boys and girls in secondary schools also differ based on five learning styles. Therefore, this study intended to examine the learning styles based on this model among students in Masterskill College, Kota Bharu, Kelantan. This study hopes to ascertain the difference in learning style between genders that influence their academic achievement.

Learning Style Inventory, LSI shows there is a significant relationship between environmental learning styles based on gender. The findings from Ting (2006a) using these questionnaires also found that there were significant differences between the learning styles of male and female students with respect to the environment. Studies showed there is a significant relationship between environment and learning styles based on gender. Male students tend to learn in cold ambient temperatures, in an informal, peer learning process and need to learn the structure of a variety. As for the girls, they tend to learn in an informal situation, but do not relate to peer-orientation and movement of food intake.

Students prefer to study in bright light as dim lighting will affect the health and will make the students tired or sleepy quickly. Environmental learning style and gender influence were also conducted by Hlawaty (2009) on 147 students. The results showed that there are gender differences in environmental learning styles.

Findings from Ting (2006b), found no significant difference between boys and girls in emotional learning styles. However, other studies conducted showed differences in emotional learning styles between boys and girls. This study aimed to determine the effect of

gender, age and study programs in learning approach. The instrument used in this study was the Revised Approaches to Studying Inventory, RASI. Kopsovich (2001) in his study found that students who have lower levels of emotional intelligence, with more skills, especially when calm, is more attentive with good communication, more efficient in understanding others and with excellent academic achievement in school. The results showed that the motivation provided by the family is crucial, it is important to encourage them to strive hard in his studies.

Heide (2002) and Ouellete (2000) were also involved in the study of the sociology of gender and learning styles. Low (2003) research work found that a low priority category is the category of sociology students. The findings also showed that students are more likely to learn alone rather than with student groups as they tend to waste time talking with each other and cannot fully concentrate on the case study. Female students are more focused using their own learning style rather than as a group, while boys are more focused when in group learning style (Ouellete, 2000). The study of the sociological learning styles of gender has been conducted by Hlawaty (2009) on 147 students. The results showed that there are gender differences in sociological learning styles.

Physical learning style consists of perception and learning outside the classroom. It is influenced by food, drink, study-time and student movements. The boys need to do a bit of movement in the learning process, such as moving to get food, drink and move to another place to continue learning. In addition, the breaks in between learning process are a must for every student.

The study found that students who practiced psychological learning style is much more confident, with good communication skills and more proactive in the long run and always maintain a high level of emotion. This group of students was more interested in the process of learning related to the method used. Students who use psychological learning styles are also creative and innovative as they always try to improve an idea so that it can be used preferably in a real situation. Normally, students comprised of boys and they used their right brain to process the information obtained (Yahaya & Karim, 2003).

According to Goleman (2000) intellectual intelligence (IQ) accounted for only 20% of success, while 80% was attributed to factors consisting of various strengths like the ability of emotional intelligence to motivate, overcome frustration, impulse control heart, empathy and capability to work. The findings by Ting (2006) using questionnaires by Dunn and Dunn (1978) also showed that there were significant differences between students' learning styles for elements based on the academic achievement persistence. However, there was no significant relationship between emotional learning styles of students based on academic achievement. Only the dimensions of emotional intelligence motivation have significant relationships with academic achievement, but the relationship is only weak. Students who were motivated but did not make any effort in the search for knowledge failed in their academic performance. This is true also for emotional learning styles and academic achievement.

Busato *et al.,* (2000) who conducted the study on intellectual ability, learning style, personality, achievement, motivation and academic success of psychology students in higher education institutions found that there was a positive relationship between academic success and learning style.

Students are more likely adapt to kinesthetic method of learning and visual methods remain weak. Literature review has found that there is a strong correlation between a person's learning style and academic achievement (Collinson, 2000). The study explained that students who achieved high academic standards tend to be engaged in self-motivated learning style and they are responsible with self-directed learning approach which are tactile than auditory. Students with moderate and low levels of achievement tend to engage in team learning styles and needs attention from teachers. This group of students has poor auditory memory and more inclined to visual learning style, through media images, drawings, symbols, graphs, comics and cartoon from reading textbooks.

The findings of the study by Hassan (2001) found no significant differences between learning styles of students with good, average and poor performance in mathematics. These findings imply that the positive effects of learning style are the same for all students, even if they have different capabilities.

METHODOLOGY

Respondents of this study were the 130 Masterskill students at Kota Bharu. The age group of the respondents varied from minimum 18 to 35 and another group with age group more than 35 years of age. The instrument used is an adaptation of Dunn & Dunn's and Honey and Mumford's Learning Style (2000). This study used questionnaires as research tools to collect data. Part A consists of four items while part B consists of 25 items. In Part B, questions are divided into five main sections based on the model from Dunn & Dunn (1978) which used the Likert Scale to measure the environmental, emotional, sociological, physical and psychological learning styles among students in the Master Skill, Kota Bharu, Kelantan. The Likert scale for items in B answered by the respondents has value scores of 1 for Strongly Disagree, 2 for Disagree, 3 for Not Sure, 4 for Agree and 5 for Strongly Agree.

The study was conducted in the rest room, during recession. The time allotted to answer the questionnaire was 30 minutes. A total of 130 students were selected to answer the questionnaires. The findings of the pilot study on 30 students showed that the items used to measure learning styles among Masterskill College nursing students have a Cronbach alpha value of 0.9.

DATA ANALYSIS

Gender Differences

From a total of 130 students from all Diploma programs selected as respondents in this research, 56 are males while 74 are females. To compare them, t-tests were carried out for each learning style to examine gender differences.

Table 1: Gender Differences between Learning Styles

Learning Styles	Gender	N	Mean	Std. Deviation	t value	p value
ENV	Male	55	43.69	4.52	-1.264	0.209
	Female	74	44.73	4.68		
EMO	Male	56	43.43	4.42	-2.149	0.033*
	Female	74	45.12	4.46		
SOC	Male	56	45.03	4.27	-0.192	0.848
	Female	74	45.23	6.56		
PHY	Male	56	43.75	4.05	-0.787	0.433
	Female	74	44.32	4.17		
PSY	Male	56	45.36	3.96	-0.906	0.366
	Female	74	46.01	4.17		

**Significant at p<0.05*

Significant gender differences exist only for Emotional learning style. The female mean value of 45.12 is significantly greater than the male mean of 43.43 at the 95% level. However, no significant gender differences existed for the other learning styles. However, mean values obtained for females are consistently higher than the males for all learning styles.

Academic Ability and Learning Styles

To examine the possible differences in learning styles between ability groups, one way ANOVA was carried out to compare learning styles preferred by different ability groups based on their pointers for each type of learning style.

Table 2: Learning styles and Academic Ability

LS	Pointers	N	Mean	F	Sig.
ENV	<2.00	4	42.50	.806	.449
	2.00-3.00	6	42.50		
	3.00-4.00	119	44.43		
EMO	<2.00	4	42.50	.910	.405
	2.00-3.00	120	44.35		
	3.00-4.00	6	46.33		
SOC	<2.00	6	43.00	.773	.464
	2.00-3.00	120	45.17		
	3.00-4.00	4	47.50		
PHY	<2.00	4	41.25	1.401	.250
	2.00-3.00	6	42.66		
	3.00-4.00	120	44.24		
PSY	<2.00	120	45.52	2.365	.098
	2.00-3.00	6	47.33		
	3.00-4.00	4	49.50		

There is no significant difference between the achievement groups and their learning styles employed. However, a certain pattern emerged from the data analysis; for each learning style, the highest mean coincide with the highest achievement group, that is, the 3.00-4.00 pointers.

Table 3 shows the mean values for each achievement group, for each of the learning styles.

Table 3: Learning Styles and Achievement Groups

ACADEMIC	N	ENV	EMO	SOC	PHY	PSY
<2.00	4	42.50	42.50	47.50	41.25	49.50
2.00-3.00	120	44.44	44.36	45.17	44.24	45.52
3.00-4.00	6	42.50	46.33	43.00	42.67	47.33

Comparing means showed that environmental learning style and physical learning styles are mostly employed by average students. Emotional learning style is mostly used by the high achievers. Low achievers, however, frequently used sociological and psychological learning styles.

Age Group and Learning Styles

Learning styles were examined according to the age of the respondents. Since only two age groups of students were involved, they were compared using t-tests. Table 4 shows the significant values between two age groups for each learning style.

Table 4: Differences in Learning Styles between Age Groups

LS	AGE	N	Mean	Std. Deviation	T value	P value
ENV	18-23	80	44.97	4.47	2.190	.030*
	24-29	49	43.16	4.70		
EMO	18-23	81	44.57	4.42	.569	.570
	24-29	49	44.10	4.67		
SOC	18-23	81	45.81	6.04	1.742	.084
	24-29	49	44.04	4.86		
PHY	18-23	81	44.72	3.89	2.315	.022*
	24-29	49	43.02	4.30		
PSY	18-23	81	45.97	3.80	.877	.832
	24-29	49	45.33	4.52		

**Significant at p<0.05*

Students come from two main age groups; the younger ones in the 18-23 age group and the older ones in the 24-29 age group. Environmental and Physical learning styles were significantly different between the two groups of students. The means for all learning styles were consistently higher for the younger students.

Place of Residence and Learning Styles

Differences in Learning Styles according to places of residence were examined using t-tests. The learning styles of students from the rural areas were compared with those from the urban areas. Table 5 showed the comparisons made. There is no significant difference in learning styles between rural and urban dwellers. Urban residents scored higher for Environmental, Sociological and Psychological learning styles while rural residents scored higher for Emotional and Physical learning styles.

Table 5: Differences in Learning Styles between Urban and Rural

LS	RESIDENCE	N	Mean	t value	p value
ENV	URBAN	20	45.25	.942	.348
	RURAL	107	44.19		
EMO	URBAN	21	43.90	-.53	.593
	RURAL	107	44.48		
SOC	URBAN	21	46.52	1.146	.254
	RURAL	107	44.97		
PHY	URBAN	21	43.67	-576	.566
	RURAL	107	44.23		
PSY	URBAN	21	46.81	1.319	.190
	RURAL	107	45.53		

Socio-economic Status and Learning Styles

Socio-economic status in this study is measured by their family's monthly income. Table 6 displayed the differences in learning styles according to the disparities in their socio-economic status.

Table 6: Learning Styles and Income Groups

LS	INCOME	N	MEAN	F	Sig.
ENV	<1000	5	43.80	0.104	0.901
	1001-2000	15	43.86		
	2001-3000	109	44.36		
EMO	<1000	5	43.80	0.258	0.773
	1001-2000	110	44.31		
	2001-3000	15	45.13		
SOC	<1000	5	43.20	0.590	0.556
	1001-2000	110	45.00		
	2001-3000	15	46.26		
PHY	<1000	5	43.20	0.128	0.880
	1001-2000	110	44.09		
	2001-3000	15	44.26		
PSY	<1000	5	45.20	0.301	0.740
	1001-2000	110	45.65		
	2001-3000	15	46.46		

Socio-economic status does not seem to influence their learning styles, however the highest income group is more open to a variety of learning styles. For all the learning styles under study, the highest income group scored higher than the other two groups.

Relationships between Learning Styles and Academic Achievement

To examine relationships, correlation analyses were employed. The five learning styles were correlated among themselves and to the academic achievement.

Table 6: Learning Styles and Income Groups

	ENV	EMO	SOC	PHY	PSY	ACA
ENV	1.000	0.399	0.376	0.250	0.199	-0.031
EMO		1.000	0.320	0.278	0.159	0.104
SOC			1.000	0.204	0.204	-0.129
PHY				1.000	0.117	0.007
PSY					1.000	-0.012
ACA						1.000

The Table 7 shows the correlation coefficients between the five learning styles with their academic achievement. Pearson correlation analyses showed no significant relationships between learning styles and academic achievement among Masterskill College nursing students.

Dimensions like Environment, Social and Psychological factors had low and negative relationships with the academic achievement with r values -0.031, -0.129 and -0.012 respectively.
Dimensions Emotional and Physical factors had less but positive relationships with the academic achievement with r values of 0.104 and 0.007 respectively.

The five dimensions of learning styles had positive and slightly higher correlations among each other.

DISCUSSION AND CONCLUSION

According to the study done by Cakan & Altun, (2005) who studied on emotional intelligences amongst teachers in Turkey, which involved 100 men and 67 women showed no significant differences between male and female teachers.

Hashim (2004) conducted her study at Kuala Pilah with grade 4 students. He found that no significant differences in emotional intelligence between male and female candidates.

Studies by Liew, Gan & Sia, (1999) on primary students at Miri showed that more number of female students have higher emotional intelligence than male students. They found that the differences in emotional intelligences between female and male students are due to their endowed women like attributes like motherhood, a more emotional empathy that tend to have the higher emotional intelligence. Finding by Chong & Mohamod, (2014) also noted that there was a significant effect of gender on emotional intelligence.

Mok (2003) said that motivations are closely related to learning and also with the student's achievements. This is consistent with the finding that showed that student's performance is dependent on strong motivation of love for learning with their own initiative. They love the happy life at the university and learn new things and always deliver their assignment on time. This finding is also similar to the finding of Kabilan, Ahmad, & Abidin, (2010) found that student does not just rely on notes that are delivered by lecturers alone but the students make additional references from time to time.

The present result also showed that the students agreed that they will be more successful academically if they are guided by lecturers as they can allocate effort and time properly in this manner. This could indirectly help the students to achieve their academic excellence. These findings also matched Kabilan, Ahmad, & Abidin, (2010) research which showed that commitment given by the lecturers greatly influenced the student to excel. In this situation, the students obtained excellent result due to their hard work. Moreover, strong motivational lecturers who teach the student in the correct technique of teaching and learning help the students to achieve good academic outcome.

This study also showed that good students planned their study with timetable and they are more disciplined to study in a systematic manner. In addition, students also study in groups to gather new ideas, information and learn new learning methods. This finding is also supported and approved by Nor, (2002) which stated that students in a group setting can stimulate interest, motivate other members and give new ideas. As a result the students excel in their studies.

In such a position and environment it is showed that the students are able to concentrate when they study in proper places such as in the library due to comfortable and holistic environments. The atmosphere and environments indirectly increase their motivation in their learning. This finding is supported by Mok (2003) who argues that comfortable learning environments will result the best outcomes in educations.

Thus the present study showed that the sociological learning style is ranked first, second is environment learning style, followed by the emotional learning styles, fourth is the psychological learning styles and

fifth is the physical learning style. The results showed that the dominant learning style among females involved the emotional element. It was also noted that age difference in learning styles is influenced by environmental and psychological elements.

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