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LEARNING STYLES OF SELECTED STUDENTS OF NUEVA ECIJA UNIVERSITY OF SCIENCE AND TECHNOLOGY LABORATORY HIGH SCHOOL AS DETERMINANT OF THEIR ACADEMIC ACHIEVEMENT

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ABSTRACT

This study sought to determine relationship between learning styles and academic achievement of selected students through the utilization of descriptive-correlational research design accomplished by means of administration of questionnaires to 215 students who were selected using the stratified random sampling. The instruments used were validated and reliability tested to identify the learning styles preferred by the students. The data gathered were statistically tested using statistical tools such as percentage, weighted mean, pearson correlation and analysis of variance.

The study revealed that majority of the respondents were of ages 15 years old and female pupils dominated. Most of the pupils have a grade ranging from 87-88. Most of the students preferred learning by doing, using their hands, involving their skills, or in other words, they prefer the tactile way of learning. The age and gender of the students does not affect their preferred way of learning. But on the other hand, the learning style of the students has a significant relationship to their academic achievement. Thus, the students' preferred way of learning has an effect to their academic achievement.

Furthermore, teachers should give much attention in dealing with the students as part of the teaching-learning process. It is recommended that they should also be aware of how the students learn, for them to be able to prepare lessons and strategies that will suit the learning style of each pupil and also, for the students to have maximum participation in the instruction.

Keywords: ***Learning style, academic performance, teaching styles.***

INTRODUCTION

Knowing students' learning styles can help in various ways to enhance learning and teaching (Garf, Kinshuk, Liu, 2009).

The diversity in teaching and learning styles has beginning to gain more attention as many studies match their preferred learning styles (Reid 1987; Zhenhui 2001; Too 2009).

It is indeed vital for teachers to have awareness of their learners' needs, capacities, potentials and learning styles preferences for effective classroom teaching and learning in this fast growing world. The subject of learning style had been researched popularly in the past. With little empirical knowledge about the relationship of learning styles and students' academic achievement, the need for research in this area is not only timely, but imperative.

Felder (1993) reported that alignment between students' learning styles and an instructor's teaching style leads to better recall and understanding, as well as to more positive post-course attitudes. Since learning style preferences vary between students, the most effective mode of instruction will also vary. Furthermore, it has been reported that teaching is most effective when it caters for a range of learning styles, in part because occasionally having to learn in a less preferred style helps to broaden students' range of skills (Felder Felder and Dietz 2002).

If any consideration is to be given to accommodating students' learning style preferences when considering the design of instructional or assessment materials, then it is necessary to know firstly whether the academic performance of students is dependent upon their preferred learning style, and secondly the distribution of learning style preferences within a student cohort must be known. This paper reports the distribution of learning styles among the selected students of Nueva Ecija University of Science and Technology Laboratory High School and investigates the relationship between the overall academic performance, as described by their grade point average in the end of the first grading period of S.Y. 2016-2017, and these styles. Some of the implications of these findings for teaching and learning are also discussed.

STATEMENT OF THE PROBLEM

This study sought to answer the following questions:

1. How may the profile of respondents be described in terms of:

1.1. Age;

1.2. Gender;

1.3. Grade point average

2. What is observed to be the most preferred learning style of the respondents?
3. Is there a significant relationship between the respondents' profile and their preferred way of learning?
4. Is there a significant relationship between the students' learning style and academic achievement?
5. What is the implication of the study in the teaching learning process?

RESEARCH METHODOLOGY

This study focused on the relationship of learning styles and academic achievement of 215 selected students of Nueva Ecija University of Science and Technology Laboratory High School. The statistical procedures employed in this study were one-way ANOVA and correlation through the program Statistical Package for the Social Sciences (SPSS). The data were collected by means of Learning Styles Survey (LSS), which contains 60 statements addressing the concerns of students with regard to six learning styles. The main instrument used for gathering data was questionnaire with sets of questions that can satisfy the needs of the study.

RESULTS AND DISCUSSION

I. Respondents' Profile

Table 1
Age of Respondents

Age	Frequency (f)	Percentage (%)
11	2	o.93%
12	35	16.28%
13	48	22.33%
14	52	24.19%
15	59	27.44%
16	19	8.84%
Total	**215**	**100%**

Majority of the pupil-respondents are of 15 years old which comprises 27.44% of the population.

Table 2
Gender of the Respondents

Gender	Frequency (f)	Percentage (%)
Male	93	43.26%
Female	122	56.74
Total	**215**	**100%**

It is shown in the table that actual classroom setting is dominated by female students since 56.74% of the respondents are female and leaves the remaining 43.26% for males.

Table 3
Achievement of Respondents

GPA	Frequency (f)	Percentage (%)	Mean Grade
93-94	7	3.26%	86.16
91-92	33	15.35%	
89-90	37	17.21%	
87-88	49	22.79%	
85-86	40	18.68%	
83-84	23	10.7%	
81-82	16	7.44%	
79-80	7	3.26%	
77-78	2	0.93%	
75-76	1	0.47%	
Total	**215**	**100%**	

The data presented in the table reveals that majority of the respondents have a grade of 87-88 which comprises 22.79% of the total number of respondents. Also, it shows that the least percentage of students received a grade ranging from 75-76 which represents only 0.47% of the population. The mean grade of the students is 86.16 indicating that the performance is good.

Table 4
Learning Style Preferences of the Respondents

	Visual	Auditory	Kinesthetic	Individual	Group	Tactile	Total
I-Earth	5	8	3	5	11	0	32
I-Jupiter	7	5	7	6	13	2	40
II-Diamond	3	4	6	8	8	0	29
II-Amethyst	3	5	5	4	9	4	30
III-Argon	6	10	4	7	4	4	35
III-Neon	4	7	6	5	10	0	32
IV-Einstein	10	9	3	4	9	2	37
IV-Newton	6	10	4	4	11	1	36
Total	44	58	38	43	75	13	271

As shown in the table, the learning styles of the respondents are distributed accordingly. The researcher have mentioned that the total number of respondents is 215. But the table shows a total of 271. This is because some of the respondents do have more than one preferred way of learning.

II. Relationship Between Students' Profile and the Different Styles of Learning

Table 5
Correlation between learning style and Students' age

	r-value	**Interpretation**	**significance**	**interpretation**
Learning Style and Age	0.029	Very small positive correlation	0.595	Not significant

Given the data on the table, it shows that there is a very small positive correlation between the age and learning styles with significance value of 0.595 giving an interpretation that the relationship is not significant.

Table 6
Correlation between students' age and each Learning style

	r-value	Interpretation	Significance	Interpretation
Age and Visual	0.035	Very small positive correlation	0.613	Not significant
Age and Auditory	0.033	Very small positive correlation	0.627	Not significant
Age and Kinesthetic	0.029	Very small positive correlation	0.675	Not significant
Age and Individual	0.033	Very small positive correlation	0.626	Not significant
Age and Group	-0.083	Very small negative correlation	0.228	Not significant
Age and Tactile	0.140	Very small positive correlation	0.040	Significant

As shown in the table, age and visual do have a very small positive correlation which is not significant with significance value of 0.613. Age correlated with auditory, kinesthetic, individual, group and tactile learning styles are also found out to be not significant.

Table 7
Correlation between gender of students and their learning style

	r-value	Interpretation	Significance	Interpretation
Learning style and Gender	-0.047	Very small negative correlation	0.437	Not significant

The table shows that since the r-value is -0.047 and significance value is 0.437, it is given that the relationship vested between gender and learning style and low but significant.

Table 8
Correlation between gender of students and each Learning style

	r-value	Interpretation	Significance	Interpretation
Gender and Visual	0.104	Very small positive correlation	0.128	Not significant
Gender and Auditory	0.198	Very small positive correlation	0.003	Significant
Gender and Kinesthetic	0.133	Very small positive correlation	0.052	Not significant
Gender and Individual	0.142	Very small positive correlation	0.037	Significant
Gender and Group	0.052	Very small positive correlation	0.451	Not significant
Gender and Tactile	0.134	Very small positive correlation	0.050	Significant

The data on the table presents the existing low correlation between gender and each learning styles as defined by each of its r-value and are not significant as verified by their significance value.

Table 9
Correlation between students' learning style and Academic achievement

	r-value	interpretation	significance	Interpretation
Learning style and GPA	-0.121	Very small negative correlation	0.014	Significant

It is shown in the table above that the learning styles of the students affect their general point average, and thus there is a significant relationship between the students' preferred learning style and their academic achievement.

CONCLUSIONS

Based on the summary of findings, the researcher comes up that;

1. The ages of the pupils define their preparedness and interests for learning.
2. Most students in Nueva Ecija University of Science and Technology Laboratory High School are girls.

3. Based on the results of the computations, the age and gender of the students do not affect their choice on how they prefer to learn.
4. On the other hand, the results of the study also show that the students' learning styles can affect their general point average.
5. Thus, the researcher came up to the conclusion that there is a significant relationship between the students' learning styles and their academic achievement.

RECOMMENDATIONS

After thorough analyses of data, the researcher hereby recommends that;

1. Teachers should give much attention in dealing with the students as part of the teaching-learning process. It is recommended that they should also be aware of how the students learn, for them to be able to prepare lessons and strategies that will suit the learning style of each pupil and also, for the students to have maximum participation in the instruction.
2. To future researchers, they may conduct another study on the relationship of learning styles to academic achievement with the following considerations: first, a specified subject as its concentration and; secondly, conducting surveys for the problems encountered in meeting the needs of students with different ways of learning and for the possible remedies in order to strengthen instruction.

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