PSYCHOLOGY AND EDUCATION (2021) 58(4): 1622-1626
Article Received: 08th October, 2020; Article Revised: 15th February, 2021; Article Accepted: 20th March, 2021

Learning Styles and Study Habits as Predictors of Academic Performance of SDCA Senior High School Students

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ABSTRACT

The performance of students in one discipline is usually predicted by their performance in other areas. Likewise, one's achievement in his chosen career is predicted by his performance in the academic courses in the secondary as well as at the college level. While there are many factors affecting performance and achievement, academic prowess is believed to have a more pronounced effect (Santelices, 2003). This study identified the learning styles and habits of senior high school students at St. Dominic's College of Asia as predictors of academic performance. The results of the study show that the dominant learning styles of the students are visual, activist, sequential, and sensing. However, there is no evidence of a link between students' academic performance and their learning style and habits. Learning styles and habits do not affect academic performance. On the other hand, there are differences observed between the variables studied, and according to their profile. This revealed that the learning styles of the respondents vary according to age and sex

Keywords
Learning Styles, Study Habits, Academic Performance, Senior High School

Article Received: 10 August 2020, Revised: 25 October 2020, Accepted: 18 November 2020

Introduction

Education is undoubtedly the instrument that has been devised for his progress. All societies, therefore, have one form of education or another, but the use in which it is put varies (Ayodele and Adebiyi, 2013).
Citing from Jamil and Khalid (2016) reiterated that the optimal level of performance in an educational institution was of most concern not only to the child himself but also to parents, guardians, teachers, and educational administrators. The education of students shows that the trend of global education towards globalization and industrialization is becoming more and more important, which not only emphasizes the requirements for academic performance but also emphasizes the academic achievement of children because the latter acts as a predictor of personal and professional success in later life.
Academic performance is seen as an important indicator of a successful future. This study examined learning styles and student habits as predictors of academic achievement.
This research was conducted to explore and breakthrough new areas of high school learning, particularly in the context of the K-12 educational paradigm, in the light of the students learning styles and study habits. In particular, the study pursued the following objectives: [1] determine the learning styles of SDCA high school students, [2] determine the academic performance of the respondents, [3] determine the learning habits of the respondents, [4] know the relationship between learning styles and students 'academic performance, [5] determine the relationship between learning habits and students' academic performance, and [6] know the difference in learning styles and student learning habits.

Methodology

This study used a descriptive type of research with a questionnaire as a data-gathering tool to determine how students' learning styles and habits are utilized as predictors of academic performance.
The research participants were all the 755 senior high school students who enrolled during the period of the conduct of the study.
The study used a questionnaire as a tool for gathering data. There were separate questionnaires for Student's Learning Styles and Students' Study Habits. The Index of Learning Styles Questionnaire originally designed by Richard M. Felder and Barbara A. Solomon was employed to find out the learning preferences of the students. The Students' Study Habits Questionnaire, on the other hand, was adapted from Virginia Gordon University: A Guidebook and Readings for New Students.
After data gathering, appropriate statistical tools were used to interpret the results of the study, to be able to address the research questions, it relied on descriptive statistics such as mean, frequency, and percentage. Inferential statistics such as one-way analysis of variance (ANOVA) was used to determine significant differences between categorical variables. Pearson's Product Moment Correlation (Pearson's r) was employed to determine the relationship between learning styles/learning habits and academic performance.

Results and Discussion

Table 1. Academic Performance of SDCA Senior High School Students

Level	Grade 11	Grade 12	Total	Percent
Outstanding (90 – 100)	88	121	209	27.68
Very satisfactory	225	164	389	51.52

(85 – 89)				
Satisfactory (80 – 84)	74	61	135	17.88
Fair (75 – 79)	9	11	20	2.65
Did not meet expectation (below 75)	2	0	2	0.26

Table 1 shows the frequency distribution of the students' academic performance. The results show that the majority of those surveyed have achieved very satisfactory levels of performance.

Table 2. Learning Styles of SDCA Senior High School Students

Learning Styles	**Preference**			**Total/ Percent**
	Mild	**Moderate**	**Strong**	
Activist	346	189	27	562 (74.44)
Reflective	166	25	2	193 (25.56)
Sensing	331	123	11	465 (61.59)
Intuitive	240	50	0	290 (38.41)
Visual	331	221	18	570 (75.50)
Verbal	158	26	1	185 (24.50)
Sequential	319	140	21	480 (63.58)
Global	223	48	4	275 (36.42)

The learning styles of the respondents were determined using frequency counting (Table 3). From the table, 570 among the respondents, or 75.50% are visual learners. This finding agreed with the study by Magulod (2019) mentions that most students better recall and understand concepts and details when they read. From seeing words from sources, on the board, and in workbooks or textbooks, students learned well. The result shows that most of the respondents are visual, activist, sequential, and sensing learners. These are the four dominating learning styles of the students.

Table 3. Study Habits of SDCA Senior High School Students

Indicators	**Grade 11 Mean (N=398)**	**Verbal Description**	**Grade 12 Mean (N=357)**	**Verbal Description**
Time Management	2.72	Generally	2.4	Sometimes
Study Environment	2.78	Generally	2.62	Generally
Test taking/ Preparation Skills	2.46	Sometimes	2.61	Generally
Note taking	2.92	Generally	2.78	Generally
Reading Skills	2.64	Generally	2.69	Generally
Writing Skills	2.83	Generally	2.81	Generally
Math Skills	2.69	Generally	2.69	Generally

Study habits were determined using an inventory questionnaire, grouped by time management, study environment, test-taking/preparation skills, note-taking skills, reading skills, writing skills, and math skills. Each category was provided different indicators to determine student learning habits.

Based on the table, the student-respondents (Grade 11) generally agreed on the indicators stipulated in most categories, which is reflected in the mean: note-taking skills, writing skills, study environment, time management, and math skills. Meanwhile, the rest of the respondents disclosed that they sometimes focused on test-taking/preparation skills.

The second group of respondents (Grade 12) disclosed their study habits with the corresponding mean obtained from each category such as writing skills, note-taking skills, reading skills, math skills, study environment, and test-taking/preparation skills which were generally preferred and done by the respondents, they sometimes focused or give attention to time management.

Table 4. Relationship between Learning Styles and Academic Performance

Variables	Test Stat	Computed value	Interpretation
Learning Styles vs. Academic Performance	*r*	0.01	Very weak relationship

The relationship between learning style and student academic performance was determined using Pearson's product moment correlation (Pearson r). From the table, the observed r value (r=0.01) is very small compared to the range of r values, a very weak relationship exists. This implies that learning styles do not affect students' academic performance.

Table 5. Relationship between Study Habits and Academic Performance

Variables	**Test Stat**	**Computed value (N=755)**	**Interpretation**
Time Management	*r*	0.08	Very weak
Study Environment	*r*	0.06	Very weak
Test taking	*r*	0.03	Very weak
Note taking	*r*	0.08	Very weak

Reading Skills	*r*	0.04	Very weak
Writing Skills	*r*	0.03	Very weak
Math Skills	*r*	0.001	Very weak

Table 5 presents a summary of the test of the relationship between the study habits and students' academic performance. Pearson r was used to determine the relationship between variables. The observed values of r for each are very small. The results show that the observed values of r fall under the "very weak" category, which is statistically negligible, thus a very weak relationship between the variables.

Table 6. ANOVA results of difference in learning styles

Variable	**F -value**	**p-value**
Strand	2.221482	0.084322
Sex	5.145686	0.023587
Age	4.408302	0.004399
Grade level	3.24171	0.072186

The difference in learning styles was determined using analysis of variance. The observed F was compared to the p-value using a 5% level of significance. The result shows that a difference exists on the variable (profile) age and sex as manifested by p-values less than 0.05 level of significance. However, the variables (profile) strand and grade level, reveal no evidence of a difference in the learning styles of the students.

Table 7. Test of difference in study habits

Source of variation	SS	df	MS	F	p-value
Between groups	64.0435	6	10.67	37.48	8.94E-45
Within groups	1503.08	5278	0.28		
Total	1567.12	5284			

The difference in students' learning habits was determined using analysis of variance. The result shows that the difference exists as evidenced by F-value (37.48) compared to the critical value (2.1000307) and supported by the p-value (8.94E-45) which is very small. Thus, the difference exists.

This study suggests, that most of the time, the question is not whether students can learn, but how they learn. Students follow different learning styles which are a reflection that all students learn uniquely. Student-respondents moderately preferred to be visual, activist, sequential, sensing, activist-visual, intuitive, global, and visual-sequential. These are the dominant learning styles the students possess. Gender-wise there is a difference in the way students learn. Likewise, the difference exists in the way students learn according to the strand. Similarly, according to age, the difference in learning styles exists. However, there is no difference in the learning style of the respondents grouped according to the grade level.

This research has shown that students "gradually" employed their learning habits to time management, learning environments, note-taking skills, reading skills, writing skills, and math skills. Learning habits contribute to the development of knowledge and perceptual abilities. Study habits tell people how much they want to learn, how much they want to go, and how much they want to earn (Rabia, Tallat, Mubarak, & Nasir, 2017). A variety of study habits and learning styles of students manifest different strategies. The teaching approaches also change in some lectures, others demonstrate or lead students to self-discovery; it focuses on some principles and other applications; some emphasize memory and others emphasize comprehension.

Manifested by the observed r, it was disclosed that relationship both study habits and learning styles against the academic performance is present but of "very weak" relationship. This implies that the existence of a relationship that is statistically negligible in the account of values ranges from 0.00 to 0.19. The findings of this study are supported by the research carried out by (Wahad, 2006 as cited in Awang, Samad, Faiz, Roddin & Kankia, 2017) stated that student academic success was not due to their learning style. There are still many factors to consider to improve a student's academic performance.

However, there are differences in learning styles, learning habits, and academic performance of students grouped according to their profile. The difference in learning styles of students lies between ages 15 and 17 years old, and 16 and 17 years old. The result is similar when the sex of the students is considered. Although, across strand and grade level, there is no evidence that a difference exists.

Conclusion

Study results revealed that senior high school students preferred visual, activist, sequential, sensing, intuitive, activist-visual, visual-sequential, and global learning styles. It was also found out that they demonstrated "gradual" levels of study habits and skills, as well as time management, study environment, test-taking, note-taking skills, reading skills, writing skills, and math skills.

Most of the students grouped according to profile have a "very satisfactory" level of academic performance. As manifested, the learning styles and study habits are not guaranteed as predictors of students' academic performance. A difference exists in the learning styles of students along with sex and age.

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