Learning Habits and Styles among Students of Computer Courses amidst Covid-19 Pandemic

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Abstract - One way to address unfortunate circumstance brought by the unprecedented Covid-19 pandemic is to shift on distance learning while face-to-face interaction is suspended. This sudden shift affects the learning habits and styles of learners. This study offers discussion on learning habits and styles of students enrolled in computer courses. Research design is descriptive and quantitative. In this study, 120 college students during the 1st Semester SY 2021-2022 at President Ramon Magsaysay State University assessed their learning habits and styles on a distance learning mode. The study findings revealed that the respondents agreed on learning styles and study habits. However, disagreed on study habit in terms of concentration. There was a significant difference on the kinesthetic learning style of the respondents when grouped according to year level profile and group learning style of the respondents when grouped according to family monthly income. There was a significant difference on the study habits of the respondents in terms of time management when grouped according to gender; study habits of the respondents in terms of time management and reading speed when grouped according to availability of gadgets; and study habits of the respondents in terms of time management and writing skill when grouped according to family monthly income. Student may continue utilizing their available resources in order to improve and find more strategies that best help them in their online learning while maintaining their focus during synchronous classes on programming using computing devices despite other factors they encounter differently at home.

Index Terms - Synchronous classes, Distance Learning, Learning Habits, Learning Styles, Computer courses, Covid-19 Pandemic

1 INTRODUCTION

Due to the posed risk of Covid-19, the education sector has experienced significant changes with the development of online learning. This allows students to receive instruction remotely and via digital platforms like Google Classroom, Canva, Zoom, and Facebook messenger [1]. Many universities provide online courses to extend their teaching techniques with distance learning courses to cater today's learners' varied distance and time requirements. They focus on modifying courses to meet the needs of students. This includes different learning styles and study habits that may affect academic performance during online learning [2].

Some students struggle to adapt their learning styles and study habits and stay on top of their work as universities swing between in-person and online learning [3]. Students may help themselves thrive during this typical period in higher education by recognizing how they learn best and how to modify and adapt that learning styles and study habits for the COVID-19 era [4].

On important consideration in distance learning is on how students learn remotely. The preferred methods of learners in learning the competencies, online learning tools among others are key determinants in online learning.

Study habits represent students' typical study behavior and cause and guide the learner's cognitive processes throughout the learning process. Time management, establishing suitable objectives, selecting a good study environment, utilizing proper note-taking methods, picking key concepts, and organizing are all examples of study habits. Each student's success or failure is determined by their study habits, as well as their ability, intelligence, and effort.

Growing number of college courses are offered online because of the Covid-19, mainly via synchronous technology, giving instructors the chance to find the best learning settings for students' study habits. Online environments may suit the requirements of learners depending on the technology utilized. Virtual presentation material may be produced and shared using a broad range of videos, pictures, animations, texts, and audio [5]. Sharpe & Benfield (2005) examined the experiences and study habits of online learners in higher education in order to suggest areas that should be investigated further. They discovered some links between habits and performance, and they recommended more research into eliciting successful online learners' experiences, habits, and tactics [6].

Understanding students' learning styles and study habits are essential, especially during this challenging time of pandemic. The interaction of students enrolled under the College of Communications and Information Technology at President Ramon Magsaysay State University's learning style preferences and study habits to their academic performance motivated the researcher to investigate the connection between these aspects. Similarly, finding the significant variations in these variables when categorized by respondents' demographic profile will help determine which personal learning interventions.

Evaluating Computer Courses students' dynamic learning dispositions and attitudes toward their studies will serve as

a foundation for the university to devise and implement educational interventions aimed at improving their academic performance and online learning experiences amidst the Covid-19 pandemic, thus this study.

2 OBJECTIVES OF THE STUDY

The specific objectives of this study were to investigate the profile of Computer Courses students, determine their learning styles and study habits, test difference in respondents' learning styles when grouped according to their profile, and test difference in respondents' student habits when grouped according to their profile.

3 HYPOTHESIS

In this study, the following hypotheses were tested: (1) There is no significant difference in respondents' learning styles when grouped according to their profile; and (2) There is no significant difference in respondents' student habits when grouped according to their profile.

4 METHODOLOGY

This study utilized descriptive research design and quantitative in its analysis. Descriptive research seeks to describe the characteristics or behavior of an audience. Its purpose is to describe, as well as to explain or to validate some sort of hypothesis or objective when it comes to a specific group of people. Specifically, this research employed survey that involved interviews or discussions with larger audiences and are often conducted on more specific topics [7]. The descriptive component of the study focused on the respondents' personal profiles, learning styles, and study habits.

For this research, a three-part questionnaire was prepared. The first-part served to collect respondents' demographic data (age, sex, year level, availability of gadgets and family monthly income).

The second part was designed to assess the learning styles of respondents in terms of virtual learning style, auditory learning style, kinesthetic learning style, tactile learning style, group learning style and individual learning style.

In the third part, study habits of respondents were assessed in terms of time management, concentration, note taking, reading comprehension, test preparation and test taking, reading speed, writing skills, and test anxiety management.

The respondents were asked to indicate their level of readiness with each of the three statements for each sub-construct on a 4-point Likert scale from 1 (strongly disagree) to 4 (strongly agree).

The study was anchored on Jack Mezirow's transformative learning theory which states that learning starts with an event that leads to a disorienting dilemma (aka, cognitive dissonance), or the discomfort that comes from realizing your current understanding of the world does not fit with current evidence). Covid-19's unanticipated, unplanned, and abrupt change in learning styles and study habits has undoubtedly created cognitive dissonance, as learners' beliefs about education have been questioned, and systemic inequalities have been worsened. Even with the greatest intentions and despite educators' valiant efforts, it is still impossible to reach every student to offer the supporting learning settings and activities they need, and this inequality must be addressed. The idea would aid the research in bolstering its conclusions and adapting its suggestions. Students should optimize their learning according to Transformative Learning Theory. Embrace Covid-19 and the associated educational difficulties as a transformational event that will lead to creativity and a whole new world for educators and students. To redirect the learner's attention to the learning opportunity presented by the epidemic, use journaling, visioning, and other self-care methods. This change may help students feel more in control and perhaps relieve some of the pain and sorrow they may be feeling throughout the pandemic.

Data were collected from 120 students who were selected purposively from the College of Communications and Information Technology at President Ramon Magsaysay State University, Iba Campus during the 1st Semester SY 2021-2022. The Cronbach's alpha, established at 0.95 describes an excellent internal consistency and reliability of the scaled items in the questionnaire. The questionnaire was distributed to the CCIT instructors onsite and online via the Messenger application. All respondents gave their informed consent for inclusion before they participated in the study. Descriptive statistics such as frequency counts, percentage and weighted mean were used to analyze the data. The test of difference on respondents' responses when grouped according to their profile was measured using the ANOVA.

The study utilized the Input-Process-Output (I-P-O) Model.

Gleaned in Figure 1, for the Input frame, it dealt with the profile of student-respondents (age, sex, year level, availability of gadgets, and monthly family income); learning styles (visual, auditory, kinesthetic, tactile, grouping, individual); and study habits (time management, concentration, note taking, reading comprehension, test preparation and test taking, reading speed, writing skills and test anxiety management). For the process frame, it dealt with the statistical tools to be used (percentage, weighted mean, and analysis of variance). The output frame

dealt with the learning styles and study habits among students of computer courses amidst Covid-19 pandemic.

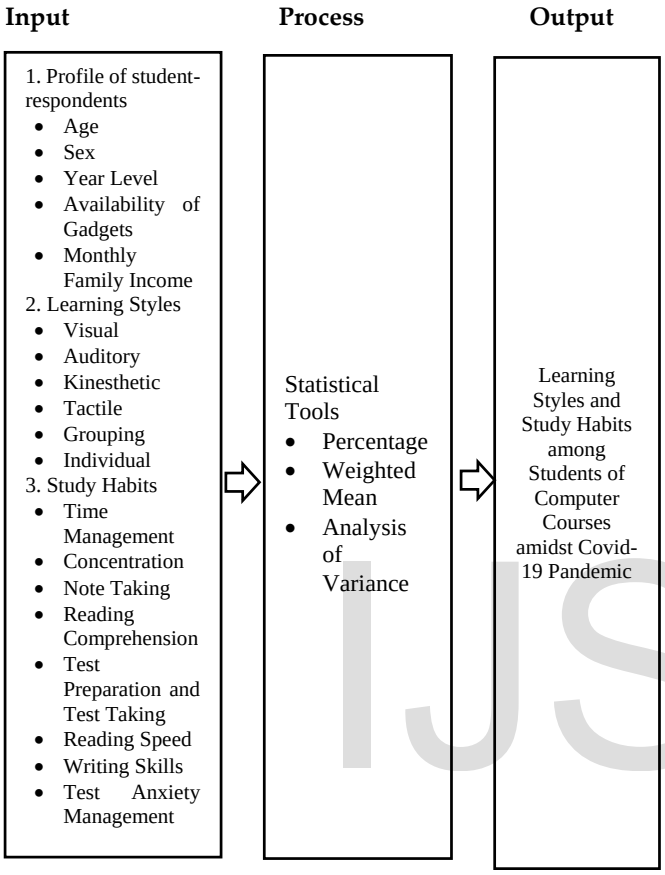

Figure 1. The Paradigm of the Study

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5 RESULTS AND DISCUSSION

Socio-Demographic Characteristics

Out of one hundred twenty (120) respondents, 9 or equivalent to 7.5% are from age 18 years old; 10 or equivalent to 8.33% from age 19 years old; 24 or equivalent to 20% from age 20 years old; 44 or equivalent to 36.67% are from age 21 years old, 26 or equivalent to 21.67% are from age 22 years old, and 7 or equivalent to 5.83% from age group 23 years old and above.

The majority of the respondents came from age 21 years old and the least from the age group of 23 years old and above. This signifies that the respondents were classified in their early pre-adulthood. This can be explained by the result of NCES (2016) evaluation of the age of undergraduate students. They found out that the plurality of students at both four-year and public two-year institutions are between the ages of 18 and 24, students at for-profit institutions tend to be older: almost half are age 30 or older. Nonetheless, more than 20 percent of undergraduate students at four-year institutions are over the age of 24 [8].

In terms of sex, 68 or equivalent to 56.67% are male while 52 or equivalent to 43.33% are female. Contrary on the study of Stoet & Geary (2020) it was discussed that in most developed nations, fewer men than women enroll in postsecondary education, and in the United States and other Western nations it is well known that far fewer men than women enroll in tertiary education. The underrepresentation of men is related both to secular changes in attitudes toward women's education and to boys' disadvantages in reading comprehension [9].

In terms of year level, 32 or equivalent to 26.67% are 1st year college students, 24 or equivalent to 20.00% are 2nd year students, 30 or equivalent to 25.00% are 3rd year students, and 34 or equivalent to 28.33% are 4th year students. It was mentioned in the study of Sedahmed & Noureldien (2019) that one way to gain the highest level of quality in a higher education system is thru inculcating knowledge from educational data such as students' enrollment data. As found out in this study, the number of enrollees changes as they go on a higher year level. There are factors classified in the study that affect the enrollment of students in college. The analysis result in the study shows that the Educational Institution related factors (50%) and Admission related factors (40%) are strongly influencing students' enrollment decision, while the Employment related factors (10%) and Student and Society related factors (0%) have weak influence. The factors out of the Educational Institution related factors that have a high impact are: reputation, diversity of study, quality of education, education facilities, and feasibility [10].

Table 1. Availability of Gadgets

Available Gadgets	Frequency	Percentage
Smart phone	106	88.33%
Tablet	2	1.67%
Laptop	10	8.33%
PC Desktop	2	1.67%
Total	**120**	**100%**

Table 1 presents that out of one hundred twenty (120) respondents, 2 or equivalent to 1.67% are students who use tablet and PC desktops, respectively, 10 or equivalent to 8.33% use laptop, and 106 or equivalent to 88.33% have smart phones as their available gadget.

Learning Styles	Frequency	Descriptive Rating	Rank
Visual Learning Style	3.00	Agree	6
Auditory Learning Style	3.33	Strongly Agree	1
Kinesthetic Learning Style	3.07	Agree	5
Tactile Learning Style	3.08	Agree	4
Grouping Learning Style	3.22	Agree	2
Individual Learning Style	3.09	Agree	3
Overall Weighted Mean	**3.13**	**Agree**	

Smartphones have become ubiquitous in our society. A survey found that 95% of students in secondary and higher education have smartphones and more than three-quarters of them use their phones for education [11]. Globally, new technology has become vital in the lives of many people. The explosion of smartphones and its related devices has greatly transformed teaching and learning in developed nations where developing nations are not the exception.

Table 2. Family Monthly Income

Available Gadgets	Frequency	Percentage
More than ₱50,000	2	1.67%
₱40,001-₱50,000	0	0%
₱30,001-₱40,000	2	1.67%
₱20,001-₱30,000	10	8.33%
₱10,001-₱20,000	34	28.33%
₱10,000 or less than	72	60.00%
Total	**120**	**100%**

In table 2, it was shown that out of one hundred twenty (120) respondents, 72 or equivalent to 60.00% has ₱10,000 or less than family monthly income, 34 or equivalent to 28.33% has ₱10,001 to ₱20,000 family monthly income, 10 or equivalent to 8.33% has ₱20,001 to ₱30,000 family monthly income, and 2 or equivalent to 1.67% has ₱30,001-₱40,000 and more than ₱50,000 family monthly income.

Family income may have a direct impact on a child's academic outcomes or variations in achievement. Parents with greater financial resources can identify communities with higher-quality schools. More affluent parents can also use their resources to ensure that their children have access to a full range of extracurricular activities at school and in the community. Financial support from family, either during traditional or flexible learning, is one of a student's necessities to meet academic requirements. This need for such support heightened during the pandemic due to economic problems; and can greatly affect one's class performance if not immediately addressed.

Descriptive Statistics

Learning Styles

Table 3. Learning Styles Among Students of Computer Courses

Among the different learning styles of students amidst Covid-19, they strongly agreed on auditory learning style which was reported to have the highest mean value (WM=3.33) while they agreed on their visual learning style with the lowest mean value (WM=3.00). On average, the students agreed on dimensions of learning styles during pandemic as reflected on the overall weighted mean value of 3.13.

Auditory learners benefit from the fact that it's unlikely they will be in a situation where there is no auditory stimulus. Students are named as "interactive" by some researchers who give importance to listen to both themselves and others. Most often, these learners are high performing same as the visual learners. Moreover, Fleming (2020), stated that auditory learners retain information best when it is presented through sound and speech. Auditory learners generally remember what their teacher says and readily participate in class. They are good listeners and often very social, which means they can sometimes get distracted from the lesson by everything else going on in the classroom [12].

Based on the study of Dunn and Dunn (1993), supported by the study conducted by Khan et al (2019), learners have visual preference who like to see while learning because they comprehend information, concepts, and ideas better by pictures and images than by details. Drawing is of much importance for them than discussing. In a learning situation, visual learner creates in mind picture of what is being discussed or described [13].

Study Habits

Table 4. Study Habits Among Students of Computer Courses

The students agreed on their study habits in terms of writing skills which was reported to have the highest mean value (WM = 2.90) while concentration was reported with the lowest mean value (WM = 2.50) interpreted as disagreed. On average, the students agreed on their study habits amidst Covid-19 pandemic.

Some students are born with the ability to write, while others require substantial work to perfect the skill. Putting time and effort into developing and improving the writing abilities is definitely worthwhile. Improved writing skills will come in handy at many periods in academic and professional careers [14]. In the study conducted by Bulqiyah et al. (2021) which is congruent to the result of this study, it was revealed that tertiary students' problems in essay writing course are categorized into: affective problems which raise from students' and lecturers' attitude while teaching and learning [15].

Meanwhile, the students disagreed with the indicators which may affect their study habits in terms of concentration. This result can be explained through the study conducted by Benila et al. (2019) where it was revealed that the concentration skill of digital learning students is better than the traditional learning. Technology drives students to expand their scope of education. In online, students learn traditional subject through innovative way [16].

Inferential Statistics

Test of Difference on Respondents' Learning Styles when grouped according to their Profile

Age

Table 5. Test of Difference on Learning Styles of Respondents when Grouped According to Age

Sources of Variations	F	Sig	Decision
Visual Learning Style	1.309	0.265	Accept Ho
Auditory Learning Style	1.870	0.105	Accept Ho
Kinesthetic Learning Style	0.767	0.575	Accept Ho
Tactile Learning Style	1.118	0.355	Accept Ho
Grouping Learning Style	0.294	0.915	Accept Ho
Individual Learning Style	0.465	0.802	Accept Ho

Study Habits	Frequency	Descriptive Rating	Rank
Time Management	2.85	Agree	6
Concentration	2.50	Disagree	8
Note Taking	2.70	Agree	7
Reading Comprehension	2.89	Agree	2.5
Test Preparation and Test Taking	2.88	Agree	4.5
Reading Speed	2.88	Agree	4.5
Writing Skills	2.90	Agree	1
Test Anxiety Management	2.89	Agree	2.5
Overall Weighted Mean	**2.81**	**Agree**	

The computed significant value for visual (0.265); auditory (0.105); kinesthetic (0.575); tactile (0.355); group (0.915) and individual (0.802) were all greater than 0.05 alpha level of significance. The result implies that there was no significant difference on the learning styles of the respondents when grouped according to age profile variable. Therefore, null hypothesis was accepted in terms of visual, auditory, kinesthetic, tactile, group and individual learning styles.

The result indicates that there was no significant difference on the learning style preference of the learner when grouped according to age profile variable. This finding is supported by O'Neale & Harrison (2013) where they did not find any significant relationship between age and learning preferences. The results of the test for age differences reveal that all age ranges have similar preference for dependent learning. It implies that all age groups perceive or desire similar things in relation to Dependent learning [17].

Sex

Table 6. Test of Difference on Learning Styles of Respondents when Grouped According to Gender

Sources of Variations	F	Sig	Decision
Visual Learning Style	0.150	0.699	Accept Ho
Auditory Learning Style	1.593	0.209	Accept Ho

Kinesthetic Learning Style	0.011	0.918	Accept Ho
Tactile Learning Style	2.210	0.140	Accept Ho
Grouping Learning Style	1.802	0.182	Accept Ho
Individual Learning Style	0.217	0.643	Accept Ho

The computed significant value for visual (0.699); auditory (0.209); kinesthetic (0.918); tactile (0.140); group (0.182) and individual (0.643) were all greater than 0.05 alpha level of significance. The result implies that there was no significant difference on the learning styles of the respondents when grouped according to sex profile variable. Therefore, null hypothesis was accepted in terms of visual, auditory, kinesthetic, tactile, group and individual learning styles.

The result shows that there was no significant difference between the learning style preference of students when grouped according to sex profile variable. The study Corbin (2017) revealed that male and female students have no perceived differences in terms of preferences or desires for learning in class. Further, it suggests that there is nothing unique about male and female preferences [18].

Year Level

Table 7. Test of Difference on Learning Styles of Respondents when Grouped According to Year Level

Sources of Variations	F	Sig	Decision
Visual Learning Style	2.629	0.054	Accept Ho
Auditory Learning Style	0.232	0.874	Accept Ho
Kinesthetic Learning Style	2.686	0.050	Reject Ho
Tactile Learning Style	1.733	0.164	Accept Ho
Grouping Learning Style	1.558	0.203	Accept Ho
Individual Learning Style	2.102	0.104	Accept Ho

The computed significant value for kinesthetic learning style (0.050) is equal to 0.05 alpha level of significance. The result indicates that there was a significant difference on the kinesthetic learning style of the respondents when grouped according to year level profile variable. The computed significant value for visual (0.054); auditory (0.874); tactile (0.164); group (0.203) and individual (0.104) were all greater than 0.05 alpha level of significance. The result implies that there was no significant difference on the learning styles of the respondents when grouped according to year level profile variable. Therefore, null hypothesis is accepted in terms of visual, auditory, tactile, group and individual learning styles.

The results show that there was no significant difference on the learning preference of the students when grouped according to year level. In a study by Liew et al. (2015), it was also found out that the learning approaches to younger students has no difference to their immediate senior counterparts. There was no evidence in the study that any particular learning style in itself was superior as compared to others in the attainment of academic success [19].

Availability of Gadgets

Table 8. Test of Difference on Learning Styles of Respondents when Grouped According to Availability of Gadgets

Sources of Variations	F	Sig	Decision
Visual Learning Style	1.796	0.152	Accept Ho
Auditory Learning Style	0.467	0.706	Accept Ho
Kinesthetic Learning Style	0.301	0.825	Accept Ho
Tactile Learning Style	0.924	0.432	Accept Ho
Grouping Learning Style	1.990	0.119	Accept Ho
Individual Learning Style	0.222	0.881	Accept Ho

The computed significant value for visual (0.152); auditory (0.706); kinesthetic (0.825); tactile (0.432); group (0.119) and individual (0.881) were all greater than 0.05 alpha level of significance. The result implies that there was no significant difference on the learning styles of the respondents when grouped according to availability of gadgets profile variable. Therefore, null hypothesis was accepted in terms of visual, auditory, kinesthetic, tactile, group and individual learning styles.

Barrot et al. (2021) revealed that during the distance education, the greatest challenge of the students was linked to their learning environment at home, while their least

challenge was technological literacy and competency. Thus, availability of gadgets does not necessarily affect the learning preference of the students [20].

Monthly Income

Table 9. Test of Difference on Learning Styles of Respondents when Grouped According to Monthly Income

Sources of Variations	F	Sig	Decision
Visual Learning Style	1.606	0.178	Accept Ho
Auditory Learning Style	1.271	0.286	Accept Ho
Kinesthetic Learning Style	0.532	0.713	Accept Ho
Tactile Learning Style	0.454	0.769	Accept Ho
Grouping Learning Style	0.881	0.005	Reject Ho
Individual Learning Style	0.357	0.839	Accept Ho

The computed significant value for group learning style (0.005) was less than 0.05 alpha level of significance. The result indicates that there was a significant difference on the group learning style of the respondents when grouped according to family monthly income profile variable. The computed significant value for visual (0.178); auditory (0.286); kinesthetic (0.713); tactile (0.769) and individual (0.839) were all greater than 0.05 alpha level of significance. The result implies that there was no significant difference on the learning styles of the respondents when grouped according to family monthly income profile variable. Therefore, hypothesis was accepted in terms of visual, auditory, kinesthetic, tactile and individual learning styles.

Adzido et al. (2016), stated in their findings that though family financial status affects students' performance to some extent, it is not an essential predictor of higher academic performance nor on the learning preference of the students. A good number of student respondents indicate that low family income does not necessarily lower their academic achievement and affects their learning desires [21].

Test of Difference on Respondents' Study Habits when grouped according to their Profile

Age

Table 10. Test of Difference on Study Habits of Respondents when Grouped According to Age

Sources of Variations	F	Sig	Decision
Time Management	0.703	0.622	Accept Ho
Concentration	0.963	0.444	Accept Ho
Note Taking	1.220	0.304	Accept Ho
Reading Comprehension	0.487	0.785	Accept Ho
Test Preparation and Test Taking	1.768	0.125	Accept Ho
Reading Speed	0.542	0.744	Accept Ho
Writing Skills	0.637	0.672	Accept Ho
Test Anxiety Management	1.309	0.265	Accept Ho

The computed significant value for time management (0.622); concentration (0.444); note taking (0.304); reading comprehension (0.785); test preparation and test taking (0.125); reading speed (0.744); writing skill (0.672) and test anxiety management (0.265) were all greater than 0.05 alpha level of significance. The result implies that there was no significant difference on the study habits of the respondents when grouped according to age profile variable. Therefore, null hypothesis was accepted in terms of time management, concentration, note taking, reading comprehension, test preparation and test taking, reading speed, writing skill and test anxiety management.

Ossai (2012) found out that age was a significant variable accounting for differences in the study habits of students. Study habits tend to improve with age. It was suggested in the study that the thrust of the argument being put is that counsellors should start early to lay a foundation for good study habits before the students reach the higher level [22].

Sex

Table 11. Test of Difference on Study Habits of Respondents when Grouped According to Sex

Sources of Variations	F	Sig	Decision
Time Management	4.009	0.048	Accept Ho
Concentration	1.200	0.276	Accept Ho
Note Taking	1.138	0.288	Accept Ho
Reading Comprehension	0.014	0.907	Accept Ho

Test Preparation and Test Taking	0.017	0.896	Accept Ho
Reading Speed	0.373	0.542	Accept Ho
Writing Skills	0.804	0.372	Accept Ho
Test Anxiety Management	0.066	0.797	Accept Ho

The computed significant value for time management (0.048) was less than 0.05 alpha level of significance. The result indicates that there was a significant difference on the study habits of the respondents in terms of time management when grouped according to gender profile variable. The computed significant value for concentration (0.276); note taking (0.288); reading comprehension (0.907); test preparation and test taking (0.896); reading speed (0.542); writing skill (0.372) and test anxiety management (0.797) were all greater than 0.05 alpha level of significance. The result implies that there was no significant difference on the study habits of the respondents when grouped according to sex profile variable. Therefore, null hypothesis is accepted in terms of concentration, note taking, reading comprehension, test preparation and test taking, reading speed, writing skill and test anxiety management.

Singh, Muktesh & Snehalata (2010) study reported that girls have better study habits than boys. Therefore, individual and group counselling methods should be utilized to help male students as well as female students who have poor study habits to improve[23]. Individual counselling refers to a one-on-one interaction between a counsellor and a client (student) with a view to helping the latter develop good study habits whereas group counselling involves 10 to 15 clients at a time [24].

Year Level

Table 12. Test of Difference on Study Habits of Respondents when Grouped According to Year Level

Sources of Variations	F	Sig	Decision
Time Management	0.786	0.504	Accept Ho
Concentration	2.083	0.106	Accept Ho
Note Taking	2.354	0.076	Accept Ho
Reading Comprehension	1.922	0.130	Accept Ho
Test Preparation and Test Taking	1.561	0.203	Accept Ho
Reading Speed	2.057	0.110	Accept Ho
Writing Skills	1.266	0.290	Accept Ho
Test Anxiety Management	2.316	0.079	Accept Ho

The computed significant value for time management (0.504); concentration (0.106); note taking (0.076); reading comprehension (0.130); test preparation and test taking (0.203); reading speed (0.110); writing skill (0.290) and test anxiety management (0.079) were all greater than 0.05 alpha level of significance. The result implies that there was no significant difference on the study habits of the respondents when grouped according to year level profile variable. Therefore, null hypothesis was accepted in terms of time management, concentration, note taking, reading comprehension, test preparation and test taking, reading speed, writing skill and test anxiety management.

Findings of Singh, Muktesh and Sinehalata (2010) that study habits improve with class or grade levels in children. If a student develops poor study habits in earlier stages of education, it will be difficult to change them overnight [25]. Spivey (2006) and Asikhia (2010) have suggested that the parents of the pupils should be involved by counsellors in laying a solid foundation of good study habits [26, 27].

Availability of Gadgets

Table 13. Test of Difference on Study Habits of Respondents when Grouped According to Availability of Gadgets

Sources of Variations	F	Sig	Decision
Time Management	3.234	0.025	Reject Ho
Concentration	1.118	0.345	Accept Ho
Note Taking	2.041	0.112	Accept Ho
Reading Comprehension	0.072	0.975	Accept Ho
Test Preparation and Test Taking	1.181	0.320	Accept Ho
Reading Speed	5.248	0.002	Reject Ho
Writing Skills	2.164	0.096	Accept Ho
Test Anxiety Management	0.873	0.456	Accept Ho

The computed significant value for time management (0.025) and reading speed (0.002) is less than

0.05 alpha level of significance. The result indicates that there was a significant difference on the study habits of the respondents in terms of time management and reading speed when grouped according to availability of gadgets profile variable. The computed significant value for concentration (0.345); note taking (0.112); reading comprehension (0.975); test preparation and test taking (0.320); writing skill (0.096) and test anxiety management (0.456) were all greater than 0.05 alpha level of significance. The result implies that there was no significant difference on the study habits of the respondents when grouped according to availability of gadgets profile variable. Therefore, null hypothesis is accepted in terms of concentration, note taking, reading comprehension, test preparation and test taking, writing skill and test anxiety management.

Study of Arfapo (2018), stated that there is no significant relationship between the electronic gadgets to the study habits of the students. It can be beneficial to these young learners to use the gadgets in achieving better access to fast and convenient learning. In the light of findings and conclusions derived from the investigation, it is recommended that the kinds of gadgets have no significant relationship to its purposes. The end users ought to teach to be more responsible in handling these products of the advances of technology [28].

Monthly Income

Table 14. Test of Difference on Study Habits of Respondents when Grouped According to Monthly Income

Sources of Variations	F	Sig	Decision
Time Management	2.536	0.044	Reject Ho
Concentration	0.974	0.425	Accept Ho
Note Taking	1.920	0.112	Accept Ho
Reading Comprehension	1.705	0.154	Accept Ho
Test Preparation and Test Taking	1.723	0.150	Accept Ho
Reading Speed	1.165	0.330	Accept Ho
Writing Skills	2.252	0.045	Reject Ho
Test Anxiety Management	2.611	0.036	Reject Ho

The computed significant value for time management (0.044) and writing skill (0.045) is less than 0.05 alpha level of significance. The result indicates that there was a significant difference on the study habits of the respondents in terms of time management and writing skill when grouped according to family monthly income profile variable. The computed significant value for concentration (0.425); note taking (0.112); reading comprehension (0.154); test preparation and test taking (0.150); reading speed (0.330) and test anxiety management (0.039) were all greater than 0.05 alpha level of significance. The result implies that there was no significant difference on the study habits of the respondents when grouped according to family monthly income profile variable. Therefore, null hypothesis is accepted in terms of concentration, note taking, reading comprehension, test preparation and test taking, reading speed and test anxiety management.

Rent, Buckley & Puchner (2015) study indicated that there is a gap in the study habit of the students who are from various socio-economic status. Four themes that affect the performance of their children emerged: parental involvement and capacity, access to resources, the role of the schools and limits, and American societal and governmental systems [29].

6 CONCLUSION AND RECOMMENDATIONS

In this study, typical respondents are BSCS/BSIT, male, in their young adulthood stage, with below average income of their family and have a mobile phone gadget. The respondents agreed on the following learning styles of students enrolled in Computer Courses: visual, kinesthetic, tactile, group and individual and Strongly Agreed on the auditory learning style. The respondents agreed on the following study habits: time management, note taking, reading comprehension, test preparation and test taking, reading speed, writing skills and test anxiety management. However, disagreed on the study habit in terms of concentration. There was a significant difference on the kinesthetic learning style of the respondents when grouped according to year level profile variable and group learning style of the respondents when grouped according to family monthly income profiled variable. There was a significant difference on the study habits of the respondents in terms of time management when grouped according to gender profile variable; study habits of the respondents in terms of time management and reading speed when grouped

according to availability of gadgets profile variable; and study habits of the respondents in terms of time management and writing skill when grouped according to family monthly income profile variable.

Since students overall agreed on the indicated learning styles, it is recommended to continue utilizing their available resources in order to improve and find more strategies that best help them in their online learning. The respondents depicted agreement on the majority of study habits. Given that the statements were negative, students must exert extra efforts to improve their academic attitude when it comes to their time management, note taking, reading comprehension, test preparation and test taking, reading speed, writing skills and test anxiety management in order to improve their class performance. The respondents demonstrated disagreement on the study habit of concentration and given that the statements were also negative, students must be consistent in maintaining their focus during synchronous class discussions and study hours on programming using computing devices despite other factors they encounter differently at home. A similar study with a larger group of respondents from different colleges may be conducted to validate and improve the generalizability of the findings.

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