

Technology Usage of High School Students at Toribio Minor National High School, Margosatubig District

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ABSTRACT

Technology has already been part of the lives of people including the students. This quantitative study was conducted to determine the level of usage of technology among academic and techno-vocational track students at Toribio Minor National High School which has a high number of students who are using technology for educational purposes. In this study, the students who are using technology were randomly selected as respondents wherein a total of 60 respondents were selected. The range of the age of the respondents was 16 to 23 years old both in academic and techno-vocational tracks. The number of respondents both male and female in academic and techno-vocational tracks has equal number of respondents with 19 females and 11 males. Based on the number of respondents per strand both in academic and techno-vocational tracks, STEM strand has the highest number of student respondents in academic track while in techno-vocational track, HE strand has the highest number of student-respondents. Result showed that the mean level of technology usage was higher in academic track students (4.0 ± 0.502 with a verbal interpretation of Often) compared to techno-vocational livelihood track students (3.15 ± 0.591 with a verbal interpretation of Sometime). Statistically, there was a significant difference in the level of usage of technology between academic and techno-vocational livelihood students ($t_{56.511} = 3.614$, $p = 0.001$ at $\alpha = 0.05$), implying that the mean level of usage of technology among academic students were significantly higher compared to techno-vocational livelihood students. This significant difference between the levels of usage could be due to the fact that academic track students have focused on academic aspects and research skills which require the use of technology while techno-vocational track students require application and practical skills which should be practiced hands-on.

KEYWORDS - Academic tracks, quantitative research, semi-structured questionnaire, techno-vocational.

1. INTRODUCTION

Technology is very useful in the new generation and because of it the work of people is easily done, especially in students for their study through searching ideas information on the internet. Technology has been scattered in the world so people can be easily communicated by using technology. Many kinds of technology that we use now are more innovative. Technology has changed how people communicate. Communication tools offer one of the greatest examples of technology that has evolved quickly. In the past, people had to write a letter to communicate with someone. The letter could take days before it was delivered. You had also to track the letters to see if it had been sent to and revived by the appropriate person. Errors were not uncommon as well. However, there is no such phenomenon today. Science and technology have made sure of this. To communicate with someone in society today, it can be done using social media (Kedrosky, 2011).

Students are in-charge of their own learning in technology. It has greatly affected and impacted the way things are presented and taught in the classroom. Technology has a large impact on the materials that are used and the way people use these materials to teach in the schools. Technology has opened up a whole new world that a couple of decade ago simply did not exist. Foreign lands and cultures are no longer hidden inside a picture book or only seen by those with a plane ticket. Rather, the internet has created an avenue in which anyone can learn about other cultures through a virtual experience. The prevalence of technology affect in so many positive ways, and that includes the education sector (Rosdy, 2015).

Students nowadays not only have computers to help them with their schoolwork but also they have easy access to research tools while teacher use technology to enhance the impact of their lessons. Technology has also

negative impact which can be extremely detrimental to study habits if not used correctly or distraction. Access to information does not necessarily teach the students on how to discern what correct or getting misinformation in different website. The speed of things these days are so fast sometimes people do not have the potential for the slowly ways and things people did before. The development of technology has significantly advanced due to series of evolutionary steps. In a large technology organization, problems exist in bringing scientific knowledge to bear on development, but much can be done to obviate these difficulties (McCoy, 2019).

In this current study, the researcher determined the level usage of technology among senior high school students. Based on the observation of the researcher, the usage of technology is very important among senior high school students because through technology students are able to browse on the internet for the lessons in school. Aside from this, because of technology the task of students can be made easily and on time. However, if the usage of the technology is not controlled, the students become dependent on it. This could result to poor understanding in the lesson and it could also affect the health status of students. On the other hand, at Toribio Minor National High School, there are students who use technology as a means of communication with their advisers and subject teachers and as a way to learn their lessons more. In this school there are high numbers of students who are using technology. Therefore, it is selected as the research site.

2. METHODS

Research Design

This study was a quantitative type of research in design. Specifically, a descriptive-survey method was used in this study because the level of usage of technology among senior high school students was determined.

Research Environment

This study was conducted at Toribio Minor National High School. This school is located in Gabay, Poblacion in Margosatubig District, Zamboanga del Sur. The school is chosen as the study site because the researcher find it as interesting because of the considerably high number of students who use technology as their means of communication with their subject teachers and classmates as well as their means of way to search information especially in answering their modules considering that the school is currently implementing modular distance learning.

Research Respondents

The respondents of this study were composed of 30 academic track students and 30 techno-vocational students who are officially enrolled in senior high school students at Toribio Minor National High School, having a total of 60 senior high school student-respondents in this study.

Sampling Technique

A random sampling technique was used in this study. This technique is a non-probability sample that is selected based on characteristics of a population and the objective of the study. It is also known as judgmental, selective, or subjective sampling. This type of sampling can be very useful in situations when you need to reach a targeted sample quickly, and where sampling for proportionality is not the main concern (Crossman, 2014).

During the selection of respondents, all senior high school students were given a chance to be selected through the lottery method. The chronological order of the respondents was based on the official list of the class per strand. Then, the researcher selected a number in the randomly distributed numbers in the lottery glass. Whatever number was selected from the lottery glass, it was then the chosen respondents.

Research Instrument

Semi-structured questionnaires were utilized in this study that determined the level of usage of technology among senior high school students. The content of the questionnaire includes demographic profile of the respondents such as age, sex, grade level and strand, and it also comprises quantitative questions related to the level of usage of technology.

Data Gathering Procedures

First, the researcher secured permission from the principal of Toribio Minor National High School to conduct this study through a letter-request duly signed by the researcher and research adviser. After finalizing the range of months for the collection of data, the researcher approached the respondents for a face-to-face survey. Basic health protocols were observed throughout the sampling such as proper wearing of facemask, physical distancing, and proper hand washing and sanitizing. The field sampling was done for three months (April to June, 2022).

Ethical Considerations

An approved permission letter was obtained from the School Principal of the research environment. The letter was then presented to the Class Advisers, emphasizing that this study was conducted with the consideration and permission the Office of the School Principal. On the other hand, the researcher provided consent form to the respondents to ensure permission of acquiring data. The protection of the privacy of research participants was guaranteed and it was specifies that any deception or exaggeration about the aims and objectives of the research must be avoided. Moreover, any type of communication in relation to the research should be done with honesty and transparency.

Statistical Analysis

The data on the demographic profile of the respondents in terms of age, sex and strand were computed in terms of its mean and were presented graphically using Microsoft Excel. The levels of usage of technology among the respondents from academic and techno-vocational livelihood tracks for the school year 2021-2022 were computed in terms of its mean using Paleontological Statistics version 3.17. Furthermore, these data were subjected to Inferential Statistics (Independent Samples t-test) to test the hypothesis (95% Confidence Interval) if there is a significant difference in the level of usage of technology between academic and techno-vocational livelihood tracks using Statistical Package for Social Sciences Statistics version 17.0.

3. RESULTS AND DISCUSSION

Toribio Minor National High School has a high number of students who are using technology for educational purposes. Thus, in this study, the students who are inclined in using technology were randomly selected as respondents in this study. The results of demographic profile of the respondents are graphically shown in Figure 1. In terms of age, the range of the age of the respondents was 16 to 23 years old both in academic and techno-vocational tracks. In academic track, the age 17 years have the highest number of respondents with 17 respondents followed by 18 years old, 16 years old, 19 years old, 22 years old and 23 years old. In techno-vocational track, the age 18 years old have the highest number of respondents with 13 respondents followed by 17 years old, 19 years old and 16 years old.

Moreover, in terms of sex, the number of respondents both male and female in academic and techno-vocational tracks have equal number of respondents with 19 females and 11 males. Based on the number of respondents per strand both in academic and techno-vocational tracks, STEM strand has the highest number of student respondents in academic track with 14 students followed by ABM (9 students) and GAS (7 students). In techno-vocational track, HE strand has the highest number of student-respondents with 23 students, and SMAW strand has the lowest number of student-respondents with 7 students.

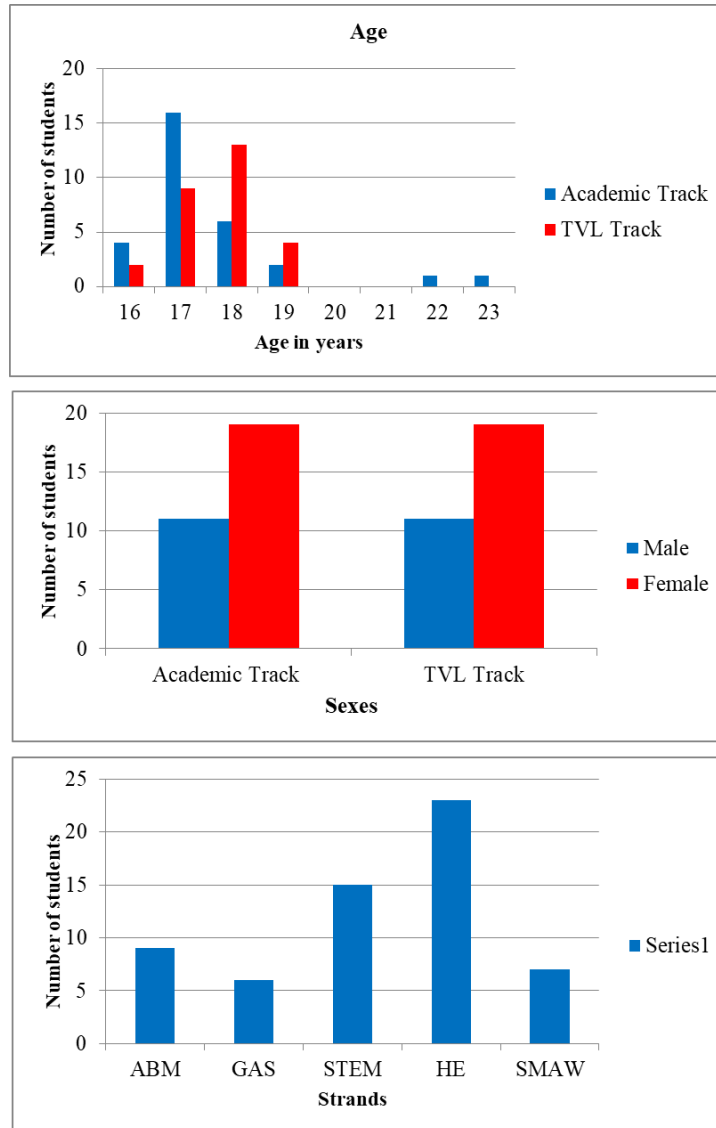


Figure 1 Demographic profiles of the respondents at Toribio Minor National High School.

The mean level of usage of technology among the students is presented in Table 1. Results showed that the mean level of technology usage was higher in academic track students compared to techno-vocational livelihood students. The mean level of technology usage of academic students was 4.0 ± 0.502 with a verbal interpretation of Often. On the other hand, the mean level of technology usage of techno-vocational livelihood students was 3.15 ± 0.591 with a verbal interpretation of Sometimes.

Table 1. Mean level of usage of technology between academic and techno-vocational livelihood senior high school students at Toribio Minor National High School.

Track	Level of usage (Mean±SD)	Interpretation
Academic	4.0 ± 0.502	Often
Techno-vocational livelihood	3.15 ± 0.591	Sometimes

Notes:

- 1.0-1.99-Never
- 2.0-2.99-Seldom
- 3.0-3.99-Sometimes
- 4.0-4.99-Often
- 5.0 Above-Always

The obtained data on the level of usage of technology between academic and techno-vocational livelihood students were further subjected to statistical analysis. Prior to heterogeneity test (t-test), the homogeneity of variants was tested using Levene’s test. As shown in Table 3, the p-value of Levene’s test for the level of usage of technology between academic and techno-vocational livelihood is reflected as $p= 0.523$ at $\alpha= 0.05$. This indicates that it can be assumed that the obtained data on the level of usage of technology between academic and techno-vocational livelihood students were different.

Results of t-test showed that there was a significant difference in the level of usage of technology between academic and techno-vocational livelihood students ($t_{56.511}= 3.614$, $p= 0.001$ at $\alpha= 0.05$). Statistically, this implies that the mean level of usage of technology among academic students (4.0 ± 0.502) were significantly higher than the mean level of usage of technology among techno-vocational livelihood students (3.15 ± 0.591).

Table 2. Independent samples t-test on the means of two variables (level of usage of technology between academic and techno-vocational livelihood track students) for the school year 2021-2022.

		Levene’s Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.
Level of Usage of Technology	Equal variances assumed	0.413	0.523	3.614	58	0.001*	0.512	0.142
	Equal variances not assumed			3.614	56.511	0.001*	0.512	0.142

Technology is an integral part of everyday lives, including the students. In fact, students in public schools are considered digital natives and have become accustomed to always being connected to their devices and the Internet (Snyder et al., 2016). In the recent years, technology has been an important component in teaching and learning. The literature has highlighted many studies investigations on the student’s intention to use technology in many countries (Salini & Reeves, 2017).

Technology provides students with easy-to-access information, accelerated learning, and opportunities to practice what they learn. It enables students to explore new subject and deepen their understanding to difficult concepts, particularly in academic track. Increased implementation of technology will increase student’s comprehension of content and development of skills in such areas as analytical reasoning, problem solving, information evaluation, and creative thinking (Ozerbaset al., 2016).

There is a revolution underway in K-12 classrooms as school districts in boards move to adopt a new style of classrooms and pedagogy focused on mobile learning for students. By focusing on the right technological advances in network management and security from the right vendor, school districts can prepare their classroom for tomorrows networking needs for the improvement of the learning of their students (Pearson, 2015).

From the perspective of learning theory, the integration of technology usage into the classroom serves constructivist and socio-cultural principles according to the constructivist views, learners create knowledge as a result of their interaction with the environment, building on existing knowledge and dependent upon the relevance of the content or instructional activity in their own lives. From the socio-cultural respective, technology provides the platform, in the tools to engage via numerous media with other individuals and groups beyond the immediate reach the students (Pittman and Gaines, 2015). Even with adequate technology access, affective professional development remains a reason that makes it difficult to increase the level of technology integration in classrooms. Little is understood about what these experiences might look like for teachers “on the ground,” during implementation of technology – integrated professional development (Wilkerson et al., 2016).

There could be many underlying factors affecting the level of usage of technology among students. Research shows that the attitudes toward the level of usage of technology to aid student’s learning have the strongest effect on technology use, followed by confidence and support in using technology (Blackwell et al., 2014). Although this study is not the first determine the level of usage of technology among students, findings herein could still provide new insights especially in the difference between academic and techno-vocational livelihood students.

4. CONCLUSION

This study was able to determine the level of usage of technology among academic and techno-vocational among senior high school students of Toribio Minor National High School for the school year 2021-2022. The findings showed that the obtained mean level in the usage of technology significantly vary, indicating significant difference on the usage of technology among academic and techno-vocational livelihood students. The significant difference in the level of usage of technology in this study could be affected by many factors including the age, sex and the strand of the students. This study has focused on the technology and quantitative type of research, another research can be conducted using qualitative method. Another study can be conducted in other schools in the District of Margosatubig to compare and contrast the results herein. Future studies can be done by increasing the number of respondents.

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REFERENCES

1. Albert D. (2012). Journal of Education Computing Research 46 (3), 229-254. <https://scholar.google.com/scholar>
2. Courtney K. (2014). Computers and Education 77, 82-90. <https://scholar.google.com/scholar>
3. Crossman, A. (2013). Poverty. Retrieved on May 21, 2020 from http://sociology.about.com/od/P_Index/g/Poverty.htm
4. DeBrey S. (2016). <http://soenline.american.edu/blog/technology-in-education> Salini R. (2017). International Journal of Information and Communication Technology Education (IJICTE), 13 (2), 82-94. <https://scholar.google.com/scholar>
5. Ghavifekr, S. (2015). Teaching and learning with technology: Effectiveness of ICT integration in schools. International Journal of Research in Education and Science (IJRES), 1(2), 175-191.
6. Kedrosky, P. (2011, June 15). Cars vs cell phone embodied energy. Retrieved July 7, 2016, from <http://paul.kedrosky.com/archives/2011/06/cars-vs-cell-phone-embodied-energy.html>.
7. Kevin C. Ph.D. Associate Professor of Curriculum & Instruction Arkansas Tech University kcostley@atu.edu
8. Snyder, T.D., de Brey, C., and Dillow, S.A. (2016). Digest of education statistics 2015 (NCES 2016-014). National center for education statistic, institution of education science, u.s department of education. Wingston, DC.
9. Pearson (2015). Student mobile device survey national report: Students in grades 4-12. Retrieved from <https://www.pearson.com/wp-content/uploads/2015-Pearson-Student-Mobile-Device-Survey-Grades-4-12.pdf>
10. Pittma, T.T., & Gaines, T.T. (2015). Technology integration in third, fourth and fifth-grade classrooms in a florida school district. Educational Technology Research & Development, 63(4), 539-554.
11. Wilkerson, M., Andrews, C. Shaban, Y., Laina., & Gravel, B. (2016). What's the technology for? Teacher attention and pedagogical goals in modeling-focused professional development workshop. Journal of Science Teacher Education, 27(1), 11-33.