Section A -Research paper

Technological Skills of Senior High School Students in State-Run Basic Education Institutions in the Philippines

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Abstract - The study focused on the technological skills of Senior High School Students in State-Run Basic Education Institutions in the Philippines. This study employed descriptive correlation research since it investigated the Correlation of Technological skills to Age, Access to Gadgets, and Income Status. Moreover, the researchers have considered the senior high school students in the City of Naga Division as the respondents of the study. Likewise, the study utilized the purposive sampling method wherein the researcher established criteria for selecting the respondents of the study. The study revealed that the students have an average level of technological skills. In addition, significant correlations between students' ages, access to gadgets, income status, and technological skills have been established. Furthermore, Technology-based tools and resources are crucial for helping students build their technological skills. Also, raising student technological skills is a necessary condition for better performance and better learning outcomes.

Keywords: Technological skills, Senior High School Students, ICT

Introduction

For the first time, there is now a way to quickly and unrestrictedly access a massive amount of knowledge that is continually being enriched, altered, and updated thanks to the growth of information and communication technologies and their integration into all aspects of human life and work. In order to fully utilize the potential of new technologies and participate actively in economic, social, and cultural life, this new model of society requires persons to possess the essential skills and competencies. Hence, it can be claimed that students today should be familiar with technological skills because it has evolved into a necessary ability for living in the modern age and a key to enabling users to operate intuitively when carrying out challenging digital tasks.

Technological skills are the most crucial skill when using technology as a communication tool to access, organize, coordinate, estimate, and transmit information in society, according to Phuapan et al. (2016). Tejedor et al. (2020) identified the necessity of enhancing digital abilities, particularly in the areas of communication, instruction, and methodology. The justification for this is that pupils' academic achievement may be impacted by technological skills (Yustika and Iswati, 2020). Moreover, according to Hague and Payton (2010), being digitally literate means having access to a wide variety of practices and cultural materials that you may use with digital instruments. It is the capacity to create and communicate successfully in a variety of modes and formats, as well as the knowledge of how and when to employ digital technologies to support these activities.

Technological skills, in the opinion of academics and policymakers, has to be integrated into the curriculum (Purnama et. al., 2021). Likewise, Numerous government, educational, and advocacy organizations have backed the integration of digital technology tools and network applications into the classroom for pragmatic and pedagogical reasons, including promoting global competitiveness, enabling resiliency in the job market, and ensuring post-secondary success (Covello and Lei, 2010). Today's students have access to the Internet at low or high speeds, from their homes or from Internet cafes. However, to make the most of information technology, they need software skills to locate information sources, manage their relevance and validity, process them quickly, and help solve problems pertaining to their academic improvement program Yustika and Iswati, 2020).

Over the years, pupils' learning qualities have been continuously evolving. Because of online classes, scholars have noted that technological skills is now of utmost importance. The researchers felt that there was a big need for this study to be conducted because some of the students are not particularly technologically literate, which must be handled appropriately given that technology is now ubiquitous and frequently used.

Methods and Materials

The study used a quantitative method since this research technique focused on quantifying the gathering and analysis of data. This study employed descriptive correlation research since it investigated the Correlation of Technological skills to Age, Access to Gadgets, and Income Status. Moreover, the researchers have considered the senior high school students in the City of Naga Division to be the respondents to this study. Likewise, the study utilized the purposive sampling method wherein the researcher established criteria for selecting the respondents to the study. These are the inclusion criteria: (1) The respondents must be senior high school students, (2) The respondents must be from one of the schools in the city of Naga, Cebu and (3) the respondents must be 16 years of age or older. Furthermore, the study was conducted at the different high schools in the City of Naga, Cebu Division, which comprised eight (8) schools.

The instrument that had been used to gather data was a technological skills questionnaire adapted from an article entitled digital literacy of language learners in two different contexts by Jeong-Bae Son, Sang-Soon Park, and Moonyoung Park (2017). In order to gather data, an online questionnaire was utilized. The results served as the basis and requirements for the formulation of conclusions and possible recommendations. The questionnaire consisted of Part I and Part II, where Part I contains statements that were about the profiles of the students while Part II contains statements that determined the level of technological skills of the students.

Ethical Consideration

In this study, the preservation of human rights was vital. As a response, the importance of the researcher's interaction with the respondents must be stressed. The researchers have maintained ethical principles for the respondents to the study, such as the first was the risk of harm and the need for confidentiality. It was important that the identity of the respondents remain confidential or anonymous. The researchers gave assurance to the respondents to protect their names and avoid using self-identifying statements and information. This protected the respondents from any potential harm. And second, was informed consent. The respondents were informed about what they would be asked to do, how the data would be used, and what (if any) consequences they might face.

Results and Discussion

This section concerns the presentation of data from the study's findings. To facilitate reading and understanding, the findings are presented in tabular form after being analyzed with SPSS version 25.

Table 1. The Level of Technological skills

Level of Technological skills	Weighted Mean	Interpretation
1. Do you understand the basic functions of computer hardware components?	2.95	Average
2. Do you have a personal homepage or personal profile on the web?	2.52	Average
3. Do you use keyboard shortcuts?	3.01	Average
4. Do you use the computer for learning purposes?	3.24	Average
5. Do you find it easy to learn something by reading it on the computer screen?	2.96	Average
6. Do you find it easy to learn something by watching it on the computer screen?	3.02	Average
7. Do you use social networking services?	3.13	Average
8. Do you have any online friend you have never met in person?	3.15	Average
9. Do you feel competent in using digital learning resources?	2.96	Average

10. Do you have mobile apps you use for language learning purposes?	3.06	Average
11. Can you change the computer screen brightness and contrast?	3.02	Average
12. Can you minimize, maximize and move windows on the computer screen?	3.21	Average
13. Can you use a 'search' command to locate a file?	3.01	Average
14. Can you scan disks for viruses?	2.47	Low
15. Can you write files onto a CD, a DVD or a USB drive?	2.79	Average
16. Can you create and update web pages?	2.50	Low
17. Can you take and edit digital photos?	3.12	Average
18. Can you record and edit digital sounds?	2.92	Average
19. Can you record and edit digital videos?	3.04	Average
20. Can you download and use apps on digital devices?	3.27	High
General Weighted Mean	**2.97**	**Average**

Legend

Rating Score	***Adjectival Rating***	***Scale***	***Verbal Interpretation***
4	*Strongly Agree*	*3.26 – 4.00*	*High*
3	*Agree*	*2.51 – 3.25*	*Average*
2	*Disagree*	*1.76 – 2.50*	*Low*
1	*Strongly Disagree*	*1.00 – 1.75*	*Very Low*

The table above explained the level of technological skills of the respondent. It articulated that the majority of the respondents found Item 20 easy to do, with a 3.27 weighted mean, which showed a high level of technological skills among the respondents. Moreover, the respondents found items 14 and 16 not that easy to do, with a 2.47 and 2.50 weighted mean, respectively, which showed a low level of technological skills among the respondents.

Overall, the result implied that the majority of the respondents have an average level of technological skills, corresponding to a 2.97 weighted mean. Technological skills were first described by Gilster (1997) as the capacity to comprehend and apply data supplied by computers in a variety of formats and sources. moreover, Martin (2006) defines technological skills as having the skills to effectively use digital tools and facilities to locate, manage, integrate, evaluate, and synthesize digital resources, construct new knowledge, produce media expressions, and interact with others in the context of particular life situations in order to promote positive social action and to reflect on this process. Likewise, Technological skills includes a range of cognitive abilities that are

used to carry out tasks in digital environments, such as browsing the Web, understanding user interfaces, using databases, and conversing in chat rooms. It goes beyond simply having the technical capacity to use digital equipment correctly (Alkali & Amichai-Hamburger, 2004).

According to Ferrari (2012), being digitally literate means having the skills to comprehend media, conduct searches, evaluate the information that may be found, and interact with people using a range of digital tools and applications. The variety of literacies connected to the use of digital technology is also referred to as technological skills, according to Ng (2012). These technologies are a subset of electronic technologies that people use at home, at school, and for social, recreational, and educational purposes. According to Derasin et. al. (2021), the use of technology during virtual learning brings advantages to students in terms of accessibility and comfort.

Table 2 Correlation of Technological skills to Age, Access to Gadgets, and Income Status

Variables	Pearson Correlation Coefficient	P - Value	Decision	Interpretation
Age and Technological skills	.209*	.034	Reject the null hypothesis	Significant relationship
Access to Gadgets and Technological skills	.303**	.002	Reject the null hypothesis	Significant relationship
Income Status and Technological skills	.293**	.003	Reject the null hypothesis	Significant relationship

The table above explained the correlation of variables. It articulated that age has a significant relationship to technological skills, with a.034 P-value and a.209* Pearson correlation coefficient. Despite the fact that age is not generally considered to play a significant role in determining ICT attitudes, Jan (2017) claims that research has been done to study the association between age and attitude toward using ICT. Studies, for instance, have not discovered a relationship between the age of pupils and their attitudes toward computers (Attuquayefio & Addo, 2016; Selwyn, 2008). On the other side, ICT attitudes among students and academic year were found to be strongly correlated by Kubiatko (2010). The consensus was that younger pupils were more upbeat and more likely to have stronger ICT abilities than older students, notwithstanding Bozionelos' (2001) contrary findings. Younger generations may be more interested in and skilled in technology, which could help to explain this.

Furthermore, access to gadgets has a significant relationship with technological skills, with a.002 P-value and a.303** Pearson correlation coefficient. One of the internet-accessing gadgets that has an impact on academic achievement, according to Rabiu et al. (2016), is the cell phone. They found that phone use had a significant impact on academic achievement for both male and female senior high school students. Also,

using technological tools to share information, prepare for lessons, attend classes, and view textbooks for scientific disciplines has a positive impact on student's achievement, according to Bayanova et al. (2019). These findings illustrated the importance of integrating technological tools into the teaching and learning process in order to improve student accomplishment.

Finally, income status has a significant relationship to technological skills, with a.003 P-value and a.293** Pearson correlation coefficient. The digital divide reflects high-income levels in the developed world, while the opposite is true for the developing world, according to Tipton (2002), Olaniran and Agnello (2008), and Beckman et al. (2008). These authors made the claim that income disparity is the primary cause of the digital divide. Likewise, the use of computers and GDP per capita has a significant positive association, according to Quibria et al. (2003). Moreover, financial capacity brings challenges.to acquiring and using technology in the classroom (Canque et. al., 2021)

Conclusion

Technology-based tools and resources are crucial for helping students build their technological skills. Also, raising student technological skills is a necessary condition for better performance and better learning outcomes. Similar to this, improved access to technical resources, the acquisition of relevant skills, and aggressive study techniques were essential for landing positions on the market.

Given the results, it is advised that the school offer technology-learning seminars and webinars to pupils. Moreover, they must offer corrective courses to raise technological skills. Parents should also ask the Local Government Unit for educational help in order to meet the student's educational needs.

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