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Online Learning In Areas With Minimum Internet Access: Assessing The Interplay Of Academic Performance And Senior High School Strand

Jeanette P. Paulino , Fretzy Ann H. Lopez , Christian G. Dumdum

Western Mindanao State University Zamboanga City, Philippines.

Abstract

In contemporary society, technology has gained widespread prevalence, fundamentally transforming people's perspectives and appreciation, particularly within the realm of education. Teachers, parents, and students have now come to recognize its profound importance in the pursuit of knowledge during this era of information technology. It streamlines the teacher's responsibilities, facilitating an enduring sense of engagement among students. In this study, the academic achievement of the accounting students who belonged to the ABM and non-ABM strands was explored during their online classes amidst pandemic learning. The data revealed that accounting students with an ABM strand during their Senior High school level performed better academically compared to their counterparts; thus, academic strand is a factor to consider in preparation for their college life. It was also noted that the performance of the respondents during the pandemic was challenged due to the poor internet connectivity experienced by some respondents.

Keywords: online learning, internet access, academic performance, senior high school, academic strand

Introduction

The emergence of online education has revolutionized the field of education by providing a versatile and accessible interface for individuals to gain wisdom and capabilities. People can now gain expertise according to their chosen pace and from any location across the globe because of the convenience offered by online courses. However, the effectiveness of virtual instruction is heavily impacted by the internet connection. This situation might create significant challenges for people situated in places that lack reliable or consistent internet availability.

Comprehending the way internet-based education affects educational achievement across diverse senior high school programs within locations with scarce internet

availability is of utmost importance. Nevertheless, carrying out research regarding this subject poses challenges as a result of the limited availability of internet connections in such regions. As suggested by Saavedra (2016), using of varied strategies to diverse learners must also fit to the needs and to the current learning situation.

It not only illuminates the effectiveness of internet-based education in difficult circumstances but also offers valuable perspectives on the prospective benefits and restrictions of specific academic fields in comparable scenarios.

Access to superior learning symbolizes a necessary advantage that must be attainable for every individual. Nonetheless, it is not true for numerous people globally. Unfortunately, many remote and disadvantaged areas face restrictions in facilities, for example, restricted internet connectivity. This makes it difficult for individuals to engage fully in remote learning initiatives. Consequently, learners in analogous localities may experience disparities in terms of educational opportunities compared to their equivalents in regions that have stronger connections. Nevertheless, it should be emphasized that these inequalities can be tackled through focused actions and endeavors to enhance connectivity and the availability of learning materials. Regardless, actions are being pursued to bridge this separation. Their goal is to guarantee a fair chance at exemplary academic resources for each person.

The utilization of Information and Communications Technology (ICT) in the Philippines has significantly impacted the educational system, representing a significant milestone. It presents a plethora of opportunities for both teachers and students alike. ICT enables efficient information transfer, data collection, and research, offering numerous benefits. However, for many, this remains an unattainable dream. The majority of public schools in the Philippines lack complete ICT facilities, and a significant portion of teachers are not proficient in ICT skills. Consequently, this situation contributes to poor student performance and overall school outcomes.

Through analyzing the interaction of internet-based learning, educational achievement, and secondary school programs in regions with restricted internet availability, this research aims to add to the ongoing discussion on inclusive schooling. Additionally, it aims to educate decision-makers, teachers, and interested parties regarding the obstacles and possible remedies to diminish the difference in digital connectivity and safeguard impartial educational possibilities for each student.

Within the nation, the execution of the K–12 education system offered various educational pathways in the senior years of high school. Such programs offer specialized classes customized for students' interests and career goals. These strands include Science, Technology, Engineering, and Mathematics (STEM); Accountancy, Business, and Management (ABM); Humanities and Social Sciences (HUMSS); and General Academic Strand (GAS). However, the impact of online learning on learning outcomes in these

disciplines in areas with restricted connectivity remains largely unstudied. This is a necessity to further explore to comprehend the influence of web-based learning (Saavedra, 2020).

The Accountancy, Business, and Management strand concentrates on the fundamental ideas of business management, financial management, corporate operations, and other related topics. This strand may also drive ABM students into the path of management and accounting, such as sales management, internal auditing, marketing, project officer, human resources, bookkeeping, and accounting clerkships. Accountancy, Business, and Management (ABM) will undoubtedly improve the skills and competencies of Senior High School students interested in studying Accountancy, Business Administration, and Management in college. The Accountancy, Business, and Management program allows ABM students to move beyond the basics of accounting and business management without having to take Algebra, Geometry, Trigonometry, or other specialized math courses.

In the Philippines, new improvements in senior high school have aimed to provide high school students a head start on their college career. Accountancy, Business, and Management (ABM), one of the four strands within the academic track, was developed by the Department of Education to provide students with necessary foundational principles for business specialty courses. The ABM specialized courses emphasized application and measurable learning outcomes for students, as well as the integration of technology.

This research seeks to address the following key questions: In what ways does limited internet availability impact educational outcomes among students engaged in virtual educational settings? Do we have noticeable disparities related to scholastic success among the different upper secondary school programs within communities with low internet connectivity? Which elements, besides internet access, influence the learning outcomes of the student body in such environments?

In the end, the results of this scientific undertaking will offer valuable perspectives into the creation of focused interventions and tactics that can lessen the consequences of limited internet usage on educational achievement. These actions promote a fair and just academic structure in locations encountering online connection obstacles.

Related Literature and Studies

K to 12 Program

The K to 12 Program is an extensive educational initiative encompassing all years from kindergarten to 12th grade. It includes six years of primary education, four years of junior high school, and two years of secondary school. The primary objective of this program is to allow students ample time to comprehensively grasp and master a wide range of concepts and skills. Its aim is to foster a mindset of continuous learning and adequately equip graduates for further education, vocational training, employment, and entrepreneurship. The revised curriculum now presents four distinct tracks for students to select: academic, Technical-Vocational-Livelihood (TVL), Arts and Design, and sports. Within these tracks, students have the opportunity to specialize in specific areas such as Accountancy, Business, and Management (ABM), Science, Technology, Engineering, and Mathematics (STEM), Humanities and Social Sciences (HUMSS), and General Academic Strand (GAS). Each college or university provides a comprehensive list of related college programs under each strand. This novel system offers students the chance to engage in immersions, gain pertinent exposure to various industries, and acquire hands-on experience in their chosen area of focus.

Importance of K to 12 Program

The K-12 program strives to strengthen students' minds and abilities in order to better equip, competent, and prepare high school graduates to take on any key life choices following their basic education. The Department of Education (DepEd) has made an announcement stating that the new curriculum aims to deliver an education of higher quality. It emphasizes that each academic strand will provide students with ample time to fully grasp a particular field of study and enhance their skills in that area. Given the proper training and academic preparation that basic education provides, they will be better prepared to seek further education.

Predictors of Performance

There are various attributes that are taken into account when predicting performance, and understanding which relevant attributes will have the greatest impact on performance has led to ongoing research in this area. Due to several circumstances relating to what is being forecasted and what data is accessible in the academic institution, there is no standard set of indicators for performance prediction. Several research have been undertaken to discover the factors that influence college freshmen's performance. Demographics, high school background, and success on college entrance exams are among the pre-enrollment data collected. Due to a lack of current performance data for incoming freshmen, high school grades and admission scores, which are a reflection of their former performance, are utilized as the basis for forecasting future success. The admissions score, in particular, has been shown to have a significant impact on student performance as well as being a factor in student dropout. Only enrolment data, which combines demographics and the course enrolled by the students, was used in

another study for early prediction of student achievement. The lack of a consistent set of predictors, which leads to poor mobility among established models, is one of the issues in performance prediction. It may be claimed that the disparities in findings are due to differences in the variables utilized, yet even when the predictors are comparable, the results are not necessarily identical. In terms of demographics, gender and place of origin were shown to be unimportant factors in some studies, while gender and province were picked as predictors in another study after applying a filter model. Two of the most critical variables linked with retention leading to graduation, according to Raju and Schumacker, are high school GPA and first semester GPA in freshman year.

Academic Performance

Scholars have provided various definitions and descriptions of academic performance. Narad and Abdullah (2016) describe it as the knowledge acquired by students, evaluated through grading systems or educational objectives within a specified timeframe. These objectives are assessed through continuous evaluations or exam results. According to Annie, Howard, and Midred (as cited in Arhad, Zaidi, & Mahmood, 2015), academic achievement serves as a measure of educational success, indicating how well schools, teachers, and students have achieved their educational goals. Yusuf, Onifade, and Bello (2016) define academic performance as the observable behavior and measurable scores of a student over time, encompassing assessments such as class exercises, tests, and various types of exams.

These definitions highlight that academic performance is assessed based on measurable outcomes, including class exercises, tests, and examination results. Therefore, for the purposes of this study, academic performance will be operationally defined as the overall results achieved by students in all subjects at the end of a specific term.

Factors Contributing to Academic Performance

According to Rono (2013), the academic success of students holds significant importance within the schooling system, serving as its foundational pillar. Narad and Abdullah (2016) further assert that the overall success or failure of an academic institution hinges upon the academic achievements of its students.

The study conducted by Farooq and Berhanu (2011) in Pakistan revealed a strong link between a student's academic achievement in Mathematics and English Language and their parents' educational background and socioeconomic status. Similarly, in Singapore, Jayanthi et al. (2014) found that a student's academic success is influenced by various factors such as their interest in a subject, participation in co-curricular activities, nationality, and gender.

Meanwhile, in South Africa, Sibanda et al. (2015) identified regular study habits, punctuality, and self-motivation as the primary factors determining students' academic

performance. Ali et al. (2013) also noted that the number of hours spent studying daily, parental socioeconomic status, and age play a role in determining academic success. Collectively, these findings indicate that students' academic performance is influenced by a combination of factors, which include parents' level of education, socioeconomic status, interest in a subject, gender, consistent study habits, punctuality, self-motivation, availability of educational resources, teacher competence, school environment, personal goals, and more. These factors can be grouped into four main categories: student, teacher, school, and parents.

Saavedra, Alejandro, & Espinosa (2022) also found out in their study that Accountancy students has a positive perception towards their learning despite holding it through online in the pandemic semesters. Students' technical skills were significant in those times in order to meet all the academic requirements.

Challenges in the Internet Access

Salac and Kim (2016) provided an explanation that in the digital era, the Internet has emerged as a potent tool for connecting individuals, information, concepts, resources, and services. It has become a driving force behind economic growth, generating employment opportunities, revolutionizing industries, enhancing infrastructure, and facilitating efficient communication among businesses and individuals worldwide. Access to high-speed Internet plays a crucial role in motivating citizens to actively participate in the information society of today. Certain countries recognize the significance of broadband Internet access as a fundamental right for communication purposes. The Philippines has made notable progress in terms of Internet connectivity over the past few decades, with its first online connection established on March 29, 1994. This milestone opened doors to progress, enabling Filipinos to access a wealth of information available on the Internet.

Over the last five years, the Philippines has experienced a remarkable growth rate in its Internet population, with a staggering increase of 531%. The country's population is projected to reach 66 million this year. Additionally, the Philippines has been referred to as the world's "texting capital" and "social media capital" at different times in recent years. The level of consumer engagement with mobile devices and technology sets the country apart from other rapidly developing Asian nations.

The Philippines has witnessed a significant rise in Internet usage due to factors such as population growth and the country's transition from an agrarian to an industrial economy. Consequently, there has been a rising adoption of information and communication technology (ICT) equipment, encompassing desktop and laptop computers, servers, printers, scanners, switch hubs, modems, and fax machines. According to the International Data Corporation (2014), the ICT industry in the Philippines witnessed a growth rate of 11.4% between 2013 and 2014. The IDC further projected that the total value of the ICT market was expected to reach USD 6.76 billion in

2014, with hardware comprising 76%, while software and services constituted 7% and 18% respectively. In 2010, out of 7,408 establishments in the country, 96.8% of them were equipped with computers connected to the Internet. However, this surge in ICT usage has posed challenges to the country's power supply, despite having a total generating capacity of 18,765 MW and a total power generation of 82,413 GWh in 2014. Increased electricity demand has resulted in power outages. The National Electric Grid of the Philippines comprises three sub-grids: Luzon, Visayas, and Mindanao Grids (Salac & Kim, 2016).

Methodology

This research was conducted at a public university in Zamboanga City, which offers a range of courses including a Bachelor of Science in Accountancy program. The study focused on third year and fourth year students from the Accountancy Department, totaling 60 students. The researchers utilized purposive sampling technique to select a representative sample for the study. All participants were intentionally chosen because they met the specific criteria sought by the researchers. Two research instruments were employed to collect the necessary data. The research instrument consisted of two parts. Part I involved a questionnaire survey to gather information about the students' profiles, while the other part involved obtaining the average grades of the respondents in accounting subjects, encompassing both senior high school and college. These grades were obtained from the student portal with the consent of the participants and under the guidance of the Department.

Results and Discussion

On the significant difference in the academic performance of the respondents with ABM strand and non-ABM strand

Table 1. presents the difference in the respondents' academic performance with the ABM strand and non-ABM strand. The computed p-value of 0.037 is less than alpha level 0.05; therefore, **there is a significant difference** in the respondents' academic performance with the ABM and non-ABM strand. This means that the respondents' academic performance may depend on their strand in SHS.

Table 1. Significant difference in the academic performance of the respondents with ABM strand and non-ABM strand

Variable	T value	p value	Interpretation
Academic performance of ABM strand and non-ABM strand	0.900	0.037	Significant

The result implies that the strand of the respondents during SHS affects their academic performance now in college. The specialized subjects of accountancy and business management students may help them prepare for the Accountancy course. Since their specialized subjects during SHS is highly related to major subjects during college.

This supports the study of Del Rosario (2020) who aimed to determine whether graduates of the ABM strand in Senior high School have significantly higher academic performance than the Non-ABM strand graduate. This study shows that Graduates of the ABM strand do much better academically than non-ABM graduates. This finding aligns with the research conducted by Florendo Dauz Jr. (2019), who aimed to establish the connection between academic achievement in high school accounting and academic performance in fundamental accounting subjects within the B.S. Accountancy program. The academic performance of ABM strand graduates is much higher than the academic performance of Non-ABM graduates, according to this study.

Correlation of Senior High School Strand to the Academic Performance of the Respondents

Table 2. presents the relation of the Senior High School strand to the respondents' academic performance. The result revealed that the Strand of the respondents is statistically significant with their academic performance since the r-value 0.533 indicates a substantial correlation and p-value 0.029 is less than 0.05. The researchers decided to reject the null hypothesis and conclude a significant relationship between respondents' Senior High School strand and their academic performance.

The result was measured using the chi-square test of correlation for categorical data. It revealed a significant relationship between the Senior High School Strand of the respondents during SHS and their academic performance. This means that the Strand of the respondents during senior High school moderately affects their academic performance in college in the accountancy course.

This is in conformity with the results of Sicat and Panganiban (2009), who found that high school background has a significant impact on the UP-entrance exam (a variable that can be compared to academic performance). Another study also conducted by Del Rosario (2020) found out that the independent variable—whether the students are ABM or non-ABM graduates has a considerable impact on the dependent variable which is academic performance.

Table 2. Correlation of Senior High School strand to the academic performance of the respondents

Variable	r value	p value	Interpretation

Academic performance of the respondents and their strand in SHS	0.533	0.029	Significant

Margin of error at 0.05

Conclusion and Recommendation

One of the salient features introduced by the K–12 curriculum is the addition of two years, which is known as Senior High School. A specific group of students has access to a predetermined range of courses through an academic track. As expected, students who chose the Accountancy and Business Management strand see themselves as future accountants and the like. Hence, in this study, it was found that accounting students with an ABM background performed better in academics. However, it must be noted that classroom performances are also affected by several factors, such as internet connectivity, especially when classes are held using technology or online. By integrating education and technology, it is possible to create interactive teaching and learning experiences that are specifically designed to foster the growth and transformation of educators and learners, thus contributing to the advancement of the digital economy. In the Philippines, the education sector has faced persistent challenges, particularly regarding logistical issues such as inadequate instructional resources, facilities, and schools, as well as the plight of underpaid and overburdened teachers. However, despite these challenges, Filipino culture continues to highly prioritize education, recognizing its potential as a powerful tool for equalizing opportunities.

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