



A sudden shift: Students' perception of distance and online education in physical education amidst COVID-19 Pandemic

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ABSTRACT

Students' perception is critical because it provides essential information about the current benefits and challenges, they are experiencing in the distance and online education setting. This study explores students' perception of physical education regarding the current educational environment in respect to gender, family accommodation, income, gadget, and source of internet connection. 262 1st year students taking minor PE are the participants in this study. Descriptive statistics such as frequency and percentage were utilized to describe the demographic characteristics of the respondents. At the same time, mean and standard deviation were used to describe students' attitudes towards distance and online education. Also, One-way ANOVA, Mann-Whitney U, and Kruskal Wallis H were utilized to determine the significant difference between groups regarding their perspective in the current educational setting. Based on the results, a statistically significant difference was found between groups concerning family accommodation. On the other hand, no difference was observed between groups of gender, income, gadget, and source of internet connection. In summary, most of the students positively perceived this current setting as beneficial to them. However, there are still challenges that pose threats to this current system. In this regard, the recommendation to address the challenges observed based on study findings and recommendations for future research is a result of this.

Keywords: Perception; distance education; online learning; physical education

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INTRODUCTION

Due to the emerging number of Filipino citizens affected by the COVID-19 virus pandemic; and to mitigate the growing number of cases infected by the said deadly virus, most Higher Education Institutions (HEIs) shifted from traditional face-to-face classes to distance classes or online classes (Foo et al., 2021; Gabriel & Rhonda, 2020). It has been almost two years since the Philippines started lockdown all over the country. In connection to this, the perception of students toward this new educational system is significant, especially for all the academicians who are still designing new strategic programs on how to address their needs and provide quality education in the distance online learning setting amidst the pandemic.

There have been a lot of previously conducted studies that focus on the perception of students towards distance and online education (Apriyanto & Saputra, 2021; D'Agostino et al., 2021; Muthuprasad et al., 2021; Ridwan et al., 2022); its advantages and disadvantages, and as well the benefits and challenges that the students experienced.

However, only a little research was performed in the Philippines, especially in a local setting. Hence, further investigation can be executed.

Advantages and Disadvantages of Distance/Online Learning

The advantages of online learning are considerable while the whole country is experiencing a pandemic. It is much safer than going back to a face-to-face class, given the rampant spread of the virus. It is the most effective way so that students' schooling is not compromised and that everyone may be able to finish their studies on time. The following are some of the advantages of online learning, according to Miller (2019); (i) Flexibility and self-paced learning, (ii) Better time management, (iii) Demonstrated self-motivation, (iv) Improved virtual communication and collaboration, (v) Broader-global perspective, (vi) Refined critical thinking skills, (vii) New technical skills.

Study findings from student surveys revealed that e-learning excitingly provides scientific material, and it increases the possibility of contact between students or themselves and teachers (Al-Rawashdeh et al., 2021). Idris et al. (2021) also mentioned in their study findings that 72.8% of students became independent, and 67.4% adapted themselves to an online learning set-up. Delas-Peñas (2020) stated that "interaction in an online environment promotes student-centered learning, encourages wider student participation, and produces more in-depth and reasoned discussion than a traditional classroom." Also, remote learning, comfort, and accessibility are also the advantages of online learning (Mukhtar et al., 2020). Lastly, in terms of Physical Education, synchronous online physical education class positively affected muscle mass, ankle strength, hip strength, knee strength, and balance (Lee et al., 2021). Therefore, online learning in physical education is effective (Apriyanto & S, 2021).

Even though there are certain advantages of online learning, there are still challenges that students are currently facing. Research by Al-Rasheed (2021) revealed that the most apparent challenges that students identified were: (i) Technicality issues, (ii) Insufficient face-to-face interaction, (iii) Time management and distractions, (iv) Lack of systematic schedule, (v) Stress and psychological pressure, (vi) Missing the traditional college life, (vii) Scarcity of digital devices, (viii) Lack of external learning resources (Tegero, 2021).

It also results in passive participation instead of active, lack of practical demonstration, inefficient feedback, a weak influence on the development of imagination and creativity, and lack of empathy (Bădău & Bădău, 2020). The result of Jeong and So (2020) on their study on the difficulties of physical education classes for middle and high school is the monotony of the courses within their limited environmental conditions and educational content that did not adequately convey the value of physical education. Trial-and-error methods are applied nationwide, resulting from a lack of expertise in operating online physical education classes. Likewise, with the study by Chan et al. (2021), PE teachers reported that online classes on the said course are ineffective in improving motor skill acquisition and physical activity levels. Chan et al. (2021) also stated that the main reason behind these due to "lack of practical training," "students' lack of learning motivation/interest," and "difficult to retain students' learning motivation." It is also alarming that the study findings of Guo et al. (2021) revealed that during the COVID-19 pandemic, the closure of schools exerted adverse effects on school-aged children's health habits, including fewer activities physically, more prolonged screen exposure, and irregular sleeping pattern. In the study of Barrot et al. (2021) on online learning challenges of college students in the Philippines during the COVID-19 pandemic, students' most significant challenge is correlated to their learning environment at home. The drastic shift to online class set-up made it difficult for the students to cope with the

new normal in education (Monte & Buan, 2021).

In this present study, the research aimed to determine the level of perception of students in distance and online learning in physical education and differences in regards to gender, family's accommodation, income, gadget, and source of internet connection amid the COVID-19 pandemic. This study is timely especially the college is still in the middle of the implementation of distance and online learning modality. The findings of this study will help to identify the perception of college students which will then be provided by significant information about the positive effect, as well as the negative effect on distance and online learning in this current setting of the study. Moreover, this study also aims to provide feedback and recommendation based on the negative effects found on the results.

METHOD

This study is carried out by using survey method. Sample of the participants are students from City College of Angeles currently enrolled and taking minor physical education courses for the academic year 2021-2022.

Population and Sample

Target population for this study are the 1st year students taking minor Physical education course from the three institutes namely: Institute of Education, Arts and Sciences, Institute of Business Management, and Institute of Computing Studies, and Library Information Science. The target sample consisted of 263 participants.

Data Collection Tools

The Students' Attitudes Towards Distance Education questionnaire was adapted for this study. The said instrument is divided into two parts. The first part deals with the demographic characteristics of the participants, such as gender, family accommodation, family's monthly income, gadgets used in the online class, and internet connection sources. As for the second part, a 24-item question regarding the attitudes of students toward distance education is subdivided into six dimensions: (1) computer and distance education, (2) learning environment, (3) student roles, (4) teaching methods, (5) communication and distance education system, and (6) related ideas. The Cronbach's Alpha value of the tool is 0.8372, which means "good," and can be utilized for the conduct of this study. Moreover, 263 online survey questionnaires were distributed, all accepted to be valid and considered. Lastly, in order to interpret the level of students' attitude, a 5-point scale was utilized which is shown in Table 1:

Table 1. Interpretation of the overall weighted mean for the level of students' attitude towards distance education

Range of weighted mean	Description	Interpretation
4.20 – 5.00	Strongly Agree	Very High
3.40 – 4.19	Agree	High
2.60 – 3.39	No Comment	Moderate
1.80 – 2.59	Disagree	Low
1.00 – 1.79	Strongly Disagree	Very Low

Analysis of Data

In order to recognize the appropriate statistical test to be used in this present study, normality test was conducted (Lobo et al., 2022). Table 2 revealed the results of the Kolmogorov-Smirnov and Shapiro-Wilk analysis. It was shown that the *p*-value of

students' attitude towards distance education in respect to gender and gadgets used in online class are higher than .05 ($>.05$); as a result, the data are considered normally distributed, and a parametric test is appropriate for the following data. On the other hand, the p -value of family's accommodation, family's monthly income and internet connection are source are lower than .05 ($<.05$); in this, non-parametric test is suitable.

Table 2. Kolmogorov-Smirnov and Shapiro-Wilk Test of Normality

	df	Kolmogorov-Smirnov		Shapiro-Wilk	
		Statistics	p -value	Statistics	p -value
Gender					
Male	99	.082	.102	.979	.105
Female	164	.056	.200*	.990	.337
Family Accommodation					
City	222	.069	.012	.983	.011
Barrio	41	.108	.200*	.966	.264
Family's Monthly Income					
10,000 PHP and below	148	.091	.005	.981	.035
10,001 PHP – 20,000 PHP	82	.068	.200*	.993	.941
20,001 PHP – 40,000 PHP	22	.127	.200*	.958	.447
40,001 PHP – 60,000 PHP	8	.237	.200*	.858	.114
60,001 PHP and above	3	.373		.779	.065
Gadgets used in online class					
Cellphone / Tablet	216	.067	.021	.987	.042
Laptop	36	.081	.200*	.969	.390
Personal Computer	11	.215	.165	.875	.089
Internet Connection Source					
Data Subscription	87	.087	.135	.960	.009
Wi-Fi Connection	176	.051	.200*	.986	.071

Descriptive statistics was used to describe the demographic characteristics of the participants, and the level of perception of students toward distance and online learning. In this, frequency (f) and percentage (%) were used to describe the demographic characteristics of the respondents as shown in Table 3; while mean (M) and standard deviation were utilized in order to describe the students' attitude towards distance education.

Table 3. Demographic Characteristics of the Participants

Individual variables	n	%
Gender		
Male	99	37.6
Female	164	62.4
Family Accommodation		
City	222	84.4
Barrio	41	15.6
Family's Monthly Income		
10,000 PHP and below	148	56.3
10,001 PHP – 20,000 PHP	82	31.2
20,001 PHP – 40,000 PHP	22	8.4
40,001 PHP – 60,000 PHP	8	3.0
60,001 PHP and above	3	1.1
Gadget used in online class		
Cellphone / Tablet	216	82.1
Laptop	36	13.7
Personal Computer	11	4.2

Individual variables	n	%
Internet Connection Source		
Data Subscription	87	33.1
Wi-Fi Connection	176	66.9

In order to describe the difference between gender and gadgets in respect to the six dimensions being measured for this study, Individual T-Test analysis and One-way ANOVA were used. Moreover, to test the difference between family's accommodation, monthly income and internet source connection in respect to six dimensions, Mann-Whitney U and Kruskal-Wallis H analyses were utilized.

RESULTS AND DISCUSSION

Table 4. Level of students' attitude towards distance education

	Statement	Mean ± SD	Interpretation
Computer and distance education	<i>I think distance education is a useful education system.</i>	3.52 ± 1.018	A
	<i>I know that in order to receive distance education, I must know computer software very well.</i>	3.88 ± .923	A
	<i>I know that in order to receive distance education, I must know computer hardware very well.</i>	3.76 ± 1.001	A
	<i>I know that in order to receive distance education, I must know the Internet very well.</i>	3.93 ± .869	A
Learning environment	<i>Learning independent from time and place makes my performance better.</i>	3.65 ± 1.015	A
	<i>It makes me ask questions comfortably which I hesitate to ask in traditional classrooms.</i>	3.41 ± 1.055	A
	<i>In distance education, there is no oppressiveness which I experience in traditional classes.</i>	3.56 ± .840	A
	<i>In the distance education process, studying at home causes motivational problems, conflicts in the family, and reduction of attention.</i>	3.86 ± .908	A
	<i>Courses taken through distance education are stable in the mind.</i>	3.44 ± .955	A
Student roles	<i>My ideas about the usage of internet in distance education is positive.</i>	3.57 ± .954	A
	<i>Distance education gives me more responsibility for learning.</i>	3.86 ± .808	A
	<i>Distance education makes me feel as if I achieve an important thing.</i>	3.60 ± .991	A
	<i>Discussion activities by e-mail, chat and electronic bulletins provides me new viewpoints.</i>	3.78 ± .972	A
Teaching methods	<i>By distance education, I can receive feedback on my effective skills.</i>	3.57 ± .942	A
	<i>I appreciate the application of distance education in all our lessons (including our practical lessons).</i>	3.99 ± .801	A
	<i>By distance education, I can receive enough feedback on my poor skills.</i>	3.48 ± .968	A
	<i>In distance education, modern teaching methods are used.</i>	4.01 ± .746	A

	Statement	Mean ± SD	Interpretation
Communication and distance education system	<i>I think it is more effective than (face-to-face) traditional classroom learning</i>	2.84 ± 1.403	NC
	<i>Questions towards discussion facilitate reinforcement.</i>	3.73 ± .742	A
	<i>Distance education reduces the expenses of communication and travel.</i>	4.06 ± .764	A
	<i>In distance education communication with teaching staff is difficult.</i>	3.92 ± .827	A
Related ideas	<i>Deficiencies of course materials in schools can be eliminated by distance education.</i>	3.61 ± .853	A
	<i>Through distance education, global education and equality of opportunity in education can be provided.</i>	3.57 ± 1.020	A

Values are expressed as means ± standard deviations. SA = strongly agree, A = agree, NC = no comment, DA = disagree and SDA = strongly disagree. VH = very high, H = high, M = moderate, L = low and VL = very low.

Comparison of averages

After the analysis, results yielded that students' attitude towards distance education is highly positive. Online and distance education provides many benefits and advantages to all institutes' students. Firstly, most of the respondents responded positively in terms of computer and distance education. Moreover, the most remarkable statement that garnered the highest compared to others is, "I know that to receive distance education, I must know the Internet very well." To adapt successfully to the new normal, students should possess knowledge and skills concerning internet use. The internet's service for education helps streamline the sharing of information and communication. It lets students access lectures online and refers to relevant study material in various multimedia formats. Furthermore, using the internet can improve learners' academic performance, self-confidence, and self-reliance (Alshahrani et al., 2017; Papanis et al., 2010).

Regarding the learning environment, the results yielded highly positive based on the respondents' responses. However, the most striking statement that garnered the highest mean among the views is "In the distance education process, studying at home causes motivational problems, conflicts in the family, and reduction of attention." Challenges are still evident even if the current setting provides various advantages that students may enjoy and benefit from (Elshareif & Mohamed, 2021; Sandybayev, 2020). These findings are relevant to the study of Meşe and Çiğdem (2021), which revealed that online education harms their motivation due to a lack of social interaction, a mismatch between expectations and content, organizational problems, and the organization of learning environments (Gustiani, 2020; Rachmat, 2020; Simamora, 2020).

The dimension of student roles yielded positive responses from the respondents. Most notably, the statement that garnered the highest mean among the ideas is "Distance education gives me more responsibility for learning." This is similar to the study of Turan et al. (2022), wherein distance education provides one of the learning opportunities that require students to act more autonomously and take more responsibility for regulating their learning process to achieve their personal learning goals. Similarly to the findings of Cárcamo and Pérez (2022), participation in online learning led to an increased level of autonomy employing increasing the frequency of behaviors related to taking charge of their learning process. Besides, distance and online learning offer flexible learning opportunities. Flexibility in time and grasp of the content positively affects the students' behavioral engagement and academic performance (Kokoç, 2019).

Regarding the teaching methods dimension, most of the responses yielded positively high. Moreover, the most striking statement that garnered the highest mean among all the accounts under this dimension is "In distance education, modern teaching methods are used." Using innovative, creative, and student-centered approaches in teaching may result in highly motivated and performing students. [Resdasari et al. \(2021\)](#) revealed that integrative e-learning significantly changes readiness and interest in learning. Similarly [Martin et al. \(2019\)](#) findings showed that the utilization of modern teaching methods positively impacts the student's education. On the other hand, the ways teachers should use in their respective classes should be carefully planned and selected to attain the goals of the course, specifically in a performance-output-based, Physical education.

It was also found that most respondents reacted positively regarding the dimension, communication, and distance education system. Remarkably, the statement "Distance education reduces the expenses of communication and travel" garnered the highest mean among the accounts. This is similar to the findings of [Abuhassna and Yahaya \(2018\)](#) that distance education has reduced travel costs and time. It is considerably cheaper compared to face-to-face settings ([Dhawan, 2020](#)). It is evident that distance and online learning education is easily accessible and can even reach rural and remote areas.

Lastly, based on the related ideas dimension, it was found that most of the respondents positively responded based on the results yielded. The most remarkable statement that garnered the highest mean among the comments is "Deficiencies of course materials in schools can be eliminated by distance education." This is similar to the advantages enumerated by the studies of [Jordan et al. \(2017\)](#), [Khan et al. \(2021\)](#), [Mpungose \(2020\)](#), and [Mukhtar et al. \(2020\)](#). Students may be able to access teachers and teaching materials conveniently. It also enables easy information access leading to positive attitude formation of students towards it. Students have the freedom to access this information, content, and documents anytime and anywhere – provided they have access to hardware and software resources. It benefited most students, allowed unprecedented flexibility and accessibility worldwide, and overcame geographical barriers.

Effects of different variable on the attitudes of students about online learning

Gender

Based on the results, there was no significant difference observed between gender and attitude of students toward distance education in terms of computer and distance $t(195.047) = .195, p = .845$, learning environment $t(187.775) = .342, p = .733$, student roles $t(261) = -.465, p = .642$, teaching methods $t(261) = -.473, p = .636$, communication and distance education system $t(173.333) = -.035, p = .972$, and related ideas $t(179.348) = .244, p = .808$ after performing Independent T-Test analysis. Overall, there was no significant difference observed between the two groups.

On the one hand, in regards to teaching methods, a significant difference was observed between groups in the statement "I appreciate the application of distance education in all our lessons (including our practical lessons)" ($p = .045$), where females are higher than males. This result refuted the study findings of ([Fidalgo et al., 2020](#)), where females are higher than males. This result refuted the study findings of ([Fidalgo et al., 2020](#)), where female students responded more positively in connection to the distance education systems' effectiveness. Additionally, in terms of the communication and distance education system, the statement "Distance education reduces the expenses of communication and travel" ($p = .034$), where females are higher than males. Based on this outcome, both groups positively agreed on the practical effect of the system as supported by the findings of [Adnan \(2020\)](#), [Almahasees et al. \(2021\)](#), [Lamanauskas and](#)

Makarskaitė-Petkevičienė (2021), Masalimova et al. (2022), and Todri et al. (2021) stating that students from the university expressed that there is a reduction in the cost of traveling to university and other related expenses.

No significant difference was observed between gender in terms of learning environment, student roles, teaching methods, and related ideas. Based on the learning environment, the following results contradicted the findings of Peytcheva-Forsyth et al. (2018), where females positively agreed to receive support in a conducive learning environment. Additionally, the study of Korlat et al. (2021) revealed that feminine adolescents are reported to have higher perceived teacher support compared to its counterpart.

Regarding student roles, the following results refuted the study findings of Yu (2021), which revealed that female learners are more perseverant and engaged than males. Also, males tend to hold a more stable positive attitude toward online learning. Moreover, females have a solid regulated attitude compared to males (Liu et al., 2021). However, findings revealed that gender differences in online learning tend to be inconsistent and even paradoxical. Justifications for these inconsistent findings may not be limited to the abovementioned results. Future research could do a more in-depth analysis of this field.

For the teaching methods used by instructors concerning students' perspectives based on gender, the result can be interpreted that both groups agreed on the statement under this dimension. However, the result was refuted by the study findings of Coman et al. (2020), where students affirmed that they have lesser time than they had before online learning because instructors give more assigned tasks than usual. On the other hand, students stated they have much more time than expected because instructors do not pay much attention to them.

Generally, the findings of Kulal and Nayak (2020) revealed that students are comfortable with the current online setting and receive enough support from teachers, but they do not believe that online classes will replace traditional classroom teaching. However, it was also revealed that teachers face difficulties conducting online classes due to a lack of proper training and development for online courses. Technical issues are the major problem for the effectiveness of online lessons.

Family Accommodation

After the Mann-Whitney U test analysis, a significant difference between groups in connection to student roles ($U = 3522.500$, $p = .020$) and teaching methods ($U = 3687.000$, $p = .050$). Moreover, in terms of student roles, the statement "My ideas about the usage of Internet in distance education are positive" ($p = .034$), "Distance education gives me more responsibility for learning" ($p = .047$), and "Distance education makes me feel as if I achieve an important thing" ($p = .043$) are higher for those who live in the city compared to the barrio. Additionally, in regards to teaching methods, the statement "I appreciate the application of distance education in all our lessons (including our practical lessons)" ($p = .049$) is higher for those who live in the city compared to the barrio.

No significant difference was observed between groups regarding the learning environment ($U = 3963.000$, $p = .186$) and communication and distance education system ($U = 3753.000$, $p = .072$). However, a significant difference between groups was observed in the learning environment, specifically in the statement "Learning independently from time and place makes my performance better" ($p = .001$), where people who live in the city are higher than those who are in the barrio. Similarly, regarding the communication and distance education system, a significant difference between groups was found in the statement "Questions towards discussion facilitate reinforcement" ($p = .011$), where

respondents who live in the city are higher than those in the barrio. Lastly, no significant difference between groups was observed in terms of computer and distance education ($U = 3993.500$, $p = .207$) and related ideas ($U = 4030.000$, $p = .229$). Overall, a statistically significant difference was found between groups in relation to this dimension ($U = 3660.500$, $p = .046$).

Generally, students who are living in urban areas are already privileged enough to experience quality online education, which is very evident in previously conducted studies (Cullinan et al., 2021; Das et al., 2021; Lembani et al., 2020), and highly apparent in the Philippines (Laguador, 2021). Both populations still face problems such as internet connection, electricity, learning privacy, and stress (Siddiqui et al., 2021). However, those who are living in the city face fewer disparities compared to those who are in the barrio. On a positive note, both populations positively perceive distance and online learning.

Family's Monthly Income

After the Kruskal-Wallis H test analysis, a significant difference was observed between groups concerning teaching methods $H(4) = 10.383$, $p = .034$. Based on the result, most respondents with 40,001.00-60,000.00 PHP income highly agree compared to the others. Moreover, most respondents with 40,001.00-60,000.00 PHP income positively agree with the statement "In distance education, modern teaching methods are used" ($p = .032$) compared to other groups. The result is highly supported by the findings of Abu-Talib et al. (2021) that distance and online education facilitates a modern and convenient mode of communication between students and instructors. Additionally, the implementation of distance and online learning, and the use of simulations and other methods for didactic purposes are useful and adequate.

On the other hand, no significant difference observed between groups in relation to computer and distance education $H(4) = 4.109$, $p = .392$, learning environment $H(4) = 7.084$, $p = .132$, student roles $H(4) = 5.329$, $p = .255$, communication and distance education system $H(4) = 5.845$, $p = .211$, and related ideas $H(4) = 7.925$, $p = .094$. Overall, there was no significant difference observed between the groups in relation to this dimension $H(4) = 8.163$, $p = .086$.

Based on Abu-Talib et al. (2021), distance or online learning systems may provide many advantages to students; however, many disadvantages may still arise and be experienced. As stated by Abu Talib et al., the following are the disadvantages: (i) Inequality and inaccessibility, (ii) Inadequacy, (iii) Communication Quality, (iv) Technical difficulties, (v) Stress, workload, and morale, (vi) Technological literacy, (vii) Engagement, participation, and motivation, (viii) Performance assessment, (ix) Work-life balance, (x) Privacy concerns. All mentioned disadvantages can be experienced by families with different incomes, which may significantly affect students. The institution may perform assessments and interventions to address these problems students are experiencing.

Gadgets used in online class

After a One-way ANOVA test analysis, a significant difference was observed between groups concerning computer and distance education ($F(2,260) = 3.390$, $p = .035$). A posthoc analysis was performed, and it was found that respondents who have personal computers are higher than those who use cellphones/tablets and laptops ($p = .035$) according to LSD. Moreover, laptop users are higher than others in the statement "I think distance education is a useful education system" ($p = .035$). In comparison, personal computer users are higher than the others in the statement "I know that to receive distance education, I must know computer software very well" ($p = .019$), "I know that to

receive distance education, I must know computer hardware very well" ($p = .031$), and "I know that to receive distance education, I must know the Internet very well" ($p = .050$). No significant difference was observed between groups in terms of learning environment ($F(2,260) = 1.817, p = .165$). On the other hand, a significant difference was found between groups, specifically in the statement, "In distance education process, studying at home causes motivational problems, conflicts in the family and reduction of attention" ($p = .031$), where laptop users are higher than others. In regards to student roles, no significant difference was observed in between groups ($F(2,260) = 1.278, p = .280$). On the other hand, laptop users are higher than others in the statement, "Distance education gives me more responsibility for learning" ($p = .034$). In respect to communication and distance education system, no significant difference was observed ($F(2,260) = .390, p = .677$). Moreover, a significant difference was observed between groups in the statement "In distance education communication with teaching staff is difficult" ($p = .002$), where laptop users are higher than other groups. Lastly, no significant difference observed between groups in respect to teaching methods ($F(2,260) = 2.622, p = .075$) and related ideas ($F(2,260) = 2.213, p = .111$). Overall, no statistically significant difference observed between groups in this specific dimension ($F(2,260) = 1.225, p = .295$).

Generally, no previous studies were found concerning students' perspectives who utilize cellphones/tablets, laptops, and personal computers. The results yielded regarding this variable are not yet conclusive. This further suggests conducting a similar study to support or refute the findings of this research.

Internet connection source

A significant difference was found between groups in respect to computer and distance education ($U = 6504.000, p = .044$), and communication and distance education system ($U = 6474.500, p = .040$). Moreover, specifically in computer and distance education, the statement "I know that to receive distance education, I must know computer software very well" ($p = .044$), most students who use Wi-Fi are higher than those who are using data subscription. Additionally, in regards to communication and distance education system, Wi-Fi users are higher than data subscription users, specifically, in the statements "Questions towards discussion facilitate reinforcement" ($p = .045$), "Distance education reduces the expenses of communication and travel" ($p = .009$), and "In distance education process, in-class interaction and discussion medium will be less" ($p = .016$). Lastly, no significant difference found between groups in relation to learning environment ($U = 7228.500, p = .459$), student roles ($U = 6679.500, p = .089$), teaching methodology ($U = 7027.00, p = .272$), and related ideas ($U = 7365.000, p = .605$). In totality, no statistically significant difference found in between groups in connection to this dimension ($U = 6819.000, p = .149$).

In summary, each population provides an opportunity to access information online. However, Wi-Fi users gain more advantages compared to data subscription users. The findings of [Moate et al. \(2017\)](#) revealed that most students benefit from Wi-Fi in their studies because it enables them to access the internet in various spots, allows them to submit their academic works on time, and enables efficient communication with classmates and lecturers. Students can access information and conduct learning processes through mobile phones, laptops, or even personal computers that can be accessed online ([Omar et al., 2018](#)). This is somehow different for those who only use mobile data, such as poor internet access and financial capacity to avail load just for online classes.

Lastly, no previously conducted studies were found in connection to these variables and each population's perspective towards distance and online classes. In connection with this, the study highly suggests conducting another study of the same and determining if the findings will support or refute the results of this present study.

CONCLUSION

Modern technology is being suggested as a remedy to the problems of traditional education's system limitations. It is much needed in this pandemic when students are studying at their respective homes. Distance education is now highly preferred by different educational institutions as the country is experiencing a pandemic due to the COVID-19 virus.

Based on the results, most students who answered the online survey appreciated the application of distance and online education amid the COVID-19 pandemic. In terms of the computer and distance education dimension, the benefit of distance and online learning education can be maximized by providing various computer literacy and internet usage seminars/webinars and training. In general, most students have a positive outlook on the application of distance and online learning education.

The learning environment of students is highly positive. It provides students autonomy in learning independently, which results in better academic performance. Moreover, the students are more comfortable asking their classmates and instructors questions concerning educational matters, which they are hesitant to ask in a traditional classroom setting. Additionally, the courses taken through distance and online education are perceived as stable in the mind of the students. However, distance and online learning education cause motivational problems, conflicts in the family, and a reduction of attention. To address these challenges, guidance counselors and advisers of each class should work together by providing various services to lessen the current cases of students in distance and online education.

Regarding the student roles, most of the respondents positively responded that distance and online education provides ideas on the positive use of the internet, responsible learning amidst the current setting, and challenges that test students to achieve more. Additionally, through various educational platforms, students received new viewpoints on their perspective towards this current setting.

The teaching methods of the instructors were also perceived positively by the respondents. Students receive feedback regarding their strengths and weaknesses in class. Also, the use of modern teaching in class positively impacts students' academic performance. Moreover, the students positively value the application of distance and online education to students' lectures and practical courses.

Also, based on the communication and distance education system dimension, the respondents positively responded across all accounts. Consistent communication between instructors and students was highly beneficial to students. Remarkably, instructors who ask questions during the discussion were perceived by students as helpful to them as this reinforces their learning. Also, one of the benefits of distance and online education perceived by the student is the reduction in the cost of communication and travel expense since most of the respondents are only staying inside their respective homes. On the contrary, students have difficulties communicating with their instructors. Instructors should provide platforms on how, when, and where to communicate with them to provide feedback and guidance to students. On the other hand, most students are neutral regarding the effectiveness of distance and online education compared to the traditional face-to-face setting.

Other related ideas, such as the opportunity to access various contents and information through the internet and equality of opportunity in education, are all perceived positively by the students. Aside from the local resources that can be accessed through the internet, the freedom and opportunity to seek helpful resources globally are also provided by this current setting.

One of the limitations of this study is its scope. This present study is only applicable to students who are currently part of the setting where this research has been conducted. This means the results of this study may not apply to other populations. Also, it does not generally represent the entire population of students from various Higher Education Institutions (HEIs) in the local, regional, or national setting. In this, future researchers may conduct a similar study widening its scope at a regional or national level. Hence, future researchers may find it interesting to work on in-depth studies by comparing the results among HEIs, and primary and secondary education institutions outside the local of this present study using a different approach and determine if the results may support or refute the findings of this research.

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