Perceived Effects of Teaching Modalities to the Academic Performance of Teacher Education Students

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Abstract

This study aims to determine the perceived effects of teaching modalities to the academic performance of teacher education students in UM, Peñaplata College in the midst of pandemic. This particular study utilized a quantitative non-experimental research design, specifically employing a descriptive-correlational research. The research questionnaire used for this study was adapted from the study of Sharma et al. (2020) and Aksan (2021) and was validated by a panel of experts. The statistical tools used in this study to analyze and evaluate the data were the Mean and Pearson Product-Moment Correlation Coefficient (Pearson-r). There were 155 respondents included in this study. The study found out that the perceived effects of modular distance learning of teacher education students as perceived by its members is high, it revealed that the effectiveness of modular distance learning despite of its challenges amidst COVID-19 pandemic is highly recommended to use modules during instructions for students to read advance about the specific topic. Additionally, teachers should monitor the learner's progress, feedback mechanisms, and guide those who need special attention. The results show that there is no significant relationship between the effect of teaching modalities and academic performance, since p-value is greater than 0.05. The researchers find the equivalent evident that modalities such as the modular and online approach are the ones that push the students of UM Peñaplata College to continue their study in the midst of pandemic.

Keywords: Teaching Modalities, Academic Performance, Education, Students

Introduction

The World Health Organization (WHO), on March 11, 2020, declared the novel coronavirus (COVID-19) outbreak a global pandemic. While attempting to find ways for education to continue amid the crisis in response to the "new normal," The Department of Education (DepEd) and the Commission on Higher Education (CHED) have mandated schools to temporarily pack up or close the academic institutions that immediately shift to online and far off getting to know as an alternative for on-site delivery (Tria, 2020). Rasmitadila et al. (2020) discovered that educators quickly shifted to distance learning and provided a variety of supports, but they indicated a need for additional resources. That aims

to ensure the health, safety, and well-being of learners, teachers, and personnel during COVID-19. In order to continue the learner's education, the university used two modalities which are modular and online distance learning, while they are geographically remote from each other during instruction (Llego, 2020).

Globally, the COVID-19 pandemic is causing 1.6 billion children and youth to be out of school in 200 countries; this can be close to 80% of the world's enrolled students (Saavedra, 2020). This study revealed that most teachers' teaching methods significantly affect students' academic performance; Wright (2011) stated that many college professors believe that a student-centered classroom provides a more effective learning environment and make efforts in this regard. Hence, Asikhia (2010) found that teacher qualifications and student environmental factors do not affect poor student performance, but teacher teaching methods do affect poor performance. Until today, Questions about the effectiveness of teaching methods in student learning have repeatedly sparked great interest in educational research (Hightower et al., 2011).

Schools in the Philippines have banned face-to-face classes since the pandemic outbreak as part of efforts to prevent further transmission of the virus. The Covid-19 widespread has significantly changed the higher instruction framework within the Philippines with a particular move in online instruction (Lapitan et al., 2021). The transition from traditional classes has coincided with a greater emphasis on more student-centered learning, with the lecturer facilitating or managing the students' learning rather than simply transmitting information (Balluerka et al., 2008). It may also have the practical advantages of increasing the cost-effectiveness of education when compared to traditional learning (Smith & Hardaker, 2000; Alexander, 2001).

Furthermore, the researchers chose to conduct this study to determine the effect of teaching modalities in UM Peñaplata College (UMPC) as the pandemic affects all government sectors, particularly in the educational sector, a significant shift from traditional to online distance learning education, which has resulted in numerous challenges to our learning delivery modes causing changes in the delivery of instruction from traditional learning to online and modular instruction, The researcher aims to determine if these changes have a significant effect on the academic performance of Bachelor of Elementary Education students currently enrolled in the course. This study will be a reference for educators, students, and researchers interested in using online and modular distance learning.

Specifically, this study aims to (i) determine the perceived effects of teaching modalities to teacher education students in UM Peñaplata College in terms of: (a) modular distance learning, and (b) online distance learning; (ii) determine the level of academic performance of teacher education students in terms of their general weighted average (GWA); and (iii) determine the significant relationship between the perceived effects of teaching modalities and the academic performance of the students.

Materials and Methods

Research Design

This study utilized a quantitative non-experimental research design, specifically using descriptive correlational research to determine the significant relationship between the perceived effects of teaching modalities and the academic performance of teacher education students in UM Peñaplata College. The researcher used the descriptive correlational design method to identify the statistical association between two variables. Bougie and Sekaran (2019) said that the researcher would shape the appropriate decisions to be made in this study design based on the problem definition, the researcher's objective, the level of precision desired, and expense consideration.

Research Participants

The study's respondents consist of students officially enrolled in the academic year 2021-2022 of the Bachelor of Elementary Education program from first-year to fourth-year in UM Peñaplata College. UMPC has 259 BEED students as of School Year 2021-2022. Through quota sampling, the researcher surveyed 155 BEED students of UMPC to get a more reliable response to the study, and all the respondents were treated as homogenous. The goal of quota sampling is to replicate the population of interest. It can form a sample that effectively represents the population's characteristics (Simkus, 2022).

Instrumentation

The research instrument used for this study is adapted from the study of Sharma et al. (2020) and Aksan (2021) in telling minimal sentences to ensure that the respondents get every statement. It was additionally validated by the panel of experts to settle on the correlation between the perceived effects of teaching modalities and the academic performance of teacher education students in UM   Peñaplata College. There were two parts to the questionnaire. Part I of the research instrument consists of the respondents' profiles, specifically their name (optional), year, and age. The general weighted average (GWA) was also indicated in Part 1 of the research instrument based on their student permanent record. Part II of the research instrument consists of 30 questions about teaching modalities that affect their performance academically, with the corresponding boxes where the respondents provide their answers. The survey questionnaire is used in this study to determine the level of perceived effects of teaching modalities and academic performance of students in UM Peñaplata College in the Island Garden City of Samal amidst the COVID-19 pandemic.

The instrument for the Perceived Effects of Teaching Modalities was measured

through modular distance learning and online distance learning. The result of the analysis can be interpreted through its range of means from 4.20 to 5.00, with a very high descriptive level indicating that teaching modalities are accentuated all the time. Next is the means of 3.40 to 4.19, with its descriptive level of high this indicates that teaching modalities are accentuated most of the time. The range of mean 2.60 to 3.39 has an interpretation of teaching modalities that is accentuated sometimes with its verbal description moderate. The interpretation indicates that teaching modalities are accentuated at a long interval of time and has a verbal description low, with a mean of 1.80 to 2.59. Lastly, 1.00 to 1.79 indicates that teaching modalities are never accentuated at all, with a verbal description very low.

For the analysis and interpretation of data for the academic performance of teacher education students in UM Peñaplata College, it was measured using the institutional grading system. The analysis result can be interpreted through a scale from 96 to 100 with a conversion of 4.0, which indicates that the student's grade is A+ with High Distinction. Next is the scale of 90 to 95 with its grade description B+ Distinction of its conversion 3.5. The following scale is 85 to 89 and has a conversion of 3.0 with a grade of B- Very Good. From the grade description C+ Good with a scale of 80 to 84, converted to 2.5. Next is the scale of 75 to 79 with its conversion of 2.0, which has a C- Average grade description. Lastly, the fail grade or F Fail has a conversion of 1.0 with a scale of <75.

Data Collection Procedures

The researchers underwent several steps in conducting the study. First, the researcher asked permission from the UM Peñaplata College through a formal E-letter via email to the Program Head of Bachelor of Elementary Education for approval to conduct the study on "Perceived Effects of Teaching Modalities to the Academic Performance of BEED students in UM Peñaplata College" After the Approval from the management of the said school, the researchers immediately proceed in validating the questionnaire.

Second, the researchers adapted a research questionnaire from the study of Sharma et al. (2020) and Aksan (2021) that would meet a particular answer. Then, the researchers presented the questionnaires to the panel of experts who examined, approved and validated the questionnaires to be used for the conduct of the study.

Third, the researchers communicated with the BEED 1st Year, 2nd Year, 3rd Year, and 4th Year class Presidents to have the master list of their class so that the researcher could proceed with conducting the survey among the students and informing them to be part of the study. Since we are still amid a pandemic, this survey was done through Google forms by asking one member of each section to give them the link to the form and share it with their classmates through group chats. The main thrust of this study is to unearth if the teaching Modalities of the Teachers in UM Peñaplata College affect the academic

performance of the Bachelor of Elementary Education students. After the respondents had completed the questionnaires, they were retrieved. This has been done on the convenient schedule of the respondents.

Lastly, as soon as all the questionnaires that have been retrieved, they were tallied and recorded accordingly. The result was statistically computed, analyzed, evaluated, and interpreted to answer the study's statement with statistical assistance. The result was placed in tables and discussed based on the research problems raised in the first chapter of this study. Upon gathering the result, the researchers followed the Inter-Agency Task Force Protocols like bringing alcohol, wearing a face mask and shield, and maintaining 1-meter social distancing.

Data Analysis

The response to all research items in the questionnaire was filed, analyzed, and interpreted in light of the purpose of the research. Since the nature of a correlational study is to measure the relationship between two variables, thus, this study seeks to determine the perceived effects of teaching modalities on the academic performance of the teacher education students at UM Peñaplata College during the COVID-19 pandemic. The gathered data was then analyzed using the appropriate statistical treatment such as (i) Mean, which was used to determine the extent of the perceived effects of the teaching modalities and level of academic performance, and (ii) Pearson Product Moment-Correlation Coefficient (r), which was used to determine the significant relationship between the perceived effects of teaching modalities and student's academic performance. It is used to measure the association of two underlying variables.

Results and Discussion

Level of Perceived Effects of Teaching Modalities

Table 1 reflects the perception of teacher education students regarding the modular distance learning approach. The table shows that the grand mean was 3.70 with descriptive equivalent High. This implied that the respondents agree with the views cited and the perceptions regarding the Modular Distance Learning Approach, helping to explore them.

Looking at the data per statement, it can be seen that I can save money that would be spent on travel, lodging, and transportation got the highest mean rating of 3.94 and a standard deviation of 1.09 with a descriptive level of High; followed by I have much time to answer the activities in a modular teaching method with a mean rating of 3.88 or High and a standard deviation of.82 The indicator, I prefer modular distance learning approach rather than traditional face-to-face instruction, got the lowest mean rating of 2.93 or Moderate with a standard deviation of 1.25. The result indicates that the overall level of

the Modular Distance Learning Approach is High. According to some studies, Modular instruction is way more effective in teaching-learning methods than traditional teaching approaches because it allows students to progress. Lim (2016) concluded that using instructional modules in teaching is a successful teaching approach. It is effective because it made a difference to the student participants who were learning concepts without keeping up with the teacher.

Table 1: Level of perceived effects of modular distance learning modality

Modular Distance Learning	SD	M	Descriptive Equivalent
I have a lot of time to answer the activities In a modular teaching method	.82	3.88	High
I am guided by friends, parents, and relatives on my activities.	1.20	3.19	Moderate
I am more active and self-directed.	.87	3.78	High
Modular distance learning approach helps to explore myself in the studies.	.91	3.72	High
It is flexible than other approaches	.85	3.52	High
I am more comfortable to answer the activity in my subject on my own using modules	.92	3.87	High
I prepare modular distance learning approach in learning.	.99	3.57	High
It is cheaper.	1.14	3.35	Moderate
I can easily answer the problems in module	.83	3.51	High
I prefer modular distance learning approach rather than traditional face-to-face instruction.	1.25	2.93	Moderate
I can save money that would be spent on travel, lodging, and transportation.	1.09	3.94	High
It can help me to read a lot about the topics from different sources.	.92	3.82	High
It helps me learn better	.95	3.51	High
I can manage my time by answering all the activities, reading lectures, and so on.	.93	3.83	High
It saves my time to answer the activities.	.94	3.82	High
Overall Mean	.64	3.70	High

This study demonstrates that self-motivation and self-determination motivate UM Peñaplata College students to continue their studies despite the pandemic and those instructional strategies like the modular and online approaches support them. Because they are not paying for travel and lodging at the moment, many students may save money. The

students would benefit, particularly in terms of cost, if we used a modular approach to remote learning. The second advantage of modular distance learning is that students have plenty of time to do their coursework because they may focus and learn in the comfort of their homes while participating in lockdown-related activities.

Findings also have similarities with the study conducted by Carrol and Burke (2010), which suggests neither modality is more effective than the other in terms of student success or course effectiveness. Regardless of the teaching method, they should employ strategies to keep their students interested in their lessons.

Table 2 reflects the perception of teacher education students regarding the online distance learning modality. The table shows that the grand mean was 3.89 with a descriptive equivalent of High. This implied that the online distance learning modality is accentuated most of the time. Most of the respondents agreed that the statements are given that the online distance learning approaches help them to explore themselves.

Table 2: Level of perceived effects of online distance learning modality

Online Distance Learning	SD	M	Descriptive Equivalent
1. I feel confident and enjoy using the online platform applications	.96	3.70	High
2. I feel students need to be trained before undergoing online learning activities	.87	3.97	High
3. I feel students need to be updated with the latest technology	.79	4.23	Very High
4. I feel online learning orients my study plan and enhances students' motivation, creativity, cognitive skills, and problem-solving skills	.88	3.85	High
5. I feel online learning is comfortable and enjoyable	.92	3.61	High
6. I frequently interacted with other students and instructors during the courses	.89	3.51	High
7. I got enough time to study on my own, enhancing my self-studying habit	.94	3.68	High
8. For me, an Online class is effective in bridging the gap of a missed academic period	.90	3.68	High
9. I have advantages of taking classes via internet outweigh the disadvantages during college lockdown	.95	3.72	High
10. I like the way my instructor makes students feel a sense of belonging.	.78	4.08	High

11. I feel the instructor's organization and preparation for a class provide a comfortable learning environment.	.82	4.08	High
12. I like the instructors teaching ability with the use of various communication techniques.	.80	4.10	High
13. I like when the instructor emphasizes in maintaining the distraction-free classes	.83	3.95	High
14. I am satisfied with the instructors providing clear instructions about the course prior to the classes.	.83	4.09	High
15. I am satisfied with the instructor's accessibility and professional behavior during the class	.81	4.14	High
Overall Mean	.63	3.89	High

As figures were shown above, it was gleaned that the other variable of the study, the online distance learning modality in teacher education students, is High. It can be seen that I feel students need to be updated with the latest technology got the highest mean rating of 4.23 and a standard deviation of .79 with a descriptive level of Very High; followed by I am satisfied with the instructor's accessibility and professional behavior during the class with a mean rating of 4.14 or High and a standard deviation of .81 The indicator, I frequently interacted with other students and instructors during the courses, got the lowest mean rating of 3.51 or High with a standard deviation of .89. Apparently, the result indicates the overall level of the online distance learning modality is High. This was the consensus of the Respondents given their answers to the questionnaire. Both indicators of the perceived effects of teaching modalities, Online Distance Learning and Modular Distance Learning have a rating of High. In this light, the level of the Perceived Effect of Teaching Modalities is accentuated concerning Academic Performance. Presumably, this would ascertain the relative components underlying variables under this study. It is hoped that the result will yield a positive effect on the academic performance of the students. As stated in the study of Carroll & Burke (2010), student opinions on how a particular modality helped to learn were the most relevant and valuable information collected from student assessments.

However, the statement that I frequently interacted with other students and instructors during the courses attained the lowest mean among the fifteen modular distance learning questions. In comparison, I prefer the modular distance learning approach rather than traditional face-to-face instruction attained the lowest mean among the fifteen online distance learning questions used in the study. It shows the degree to which teachers must execute the promised service dependably and accurately. This has more to do with the teacher's advantage in disseminating information. Because the teachers manage the transfer and sharing of knowledge, it is obliged to mislead the student into thinking that the teachers

are the only source of knowledge; thus, students make less effort to create their knowledge. This causes students to lose both interest and understanding of the concept. According to Zakaria et al. (2010), education needs to actively involve students as key participants and recipients of rules, definitions, and procedure instructions to realize some solutions to the above deficiencies.

Level of Academic Performance

Shown in Table 2 is the level of Academic Performance. The overall mean academic performance score is 3.18 with a 0.35 standard deviation with a descriptive level of Very Good (B-); this means that teaching methods effectively improve students' academic performance. This indicates that the students have a good and solid performance for both teaching modalities. This demonstrates that the students have good grades in the subject or in one area that is measured with a satisfactory grasp.

Table 3: Academic performance of students

Academic Performance	SD	M	Descriptive Equivalent
General Weighted Average	.35	3.18	Very Good (B⁻)

Based on the result obtained in the study of Isa et al. (2020), teachers take different approaches to help students gain knowledge, skills, and experience. Briggs (2015) stated that other teaching strategies should be adopted if existing teaching strategies are not successful. With this in mind, we need a paradigm shift to be appropriate, relevant and effective methods for the subject. Saribas and Bayram (2009) recognize that with proper learning methods, learners acquire the right attitudes and skills during the learning process.

Significant Relationship between the Perceived Effects of Teaching Modalities and Academic Performance

Table 3 reveals the Perceived Effect of Teaching modalities and Academic Performance. Since the p-value is greater than the 0.05 level of significance, then we do not reject the null hypothesis. Therefore, it reflects that there is no significant relationship between the effect of Teaching Modalities and Academic Performance. Modular distance learning is high in r-value in terms of a general weighted average (GWA) compared to online distance learning. At the same time, the result of the p-value is greater than .05. According to Mcleod (2019), when the p-value is less than 0.05, it is statistically significant and indicates more substantial evidence against the null hypothesis resulting in its rejection.

Table 4: Significant relationship between the perceived effects of teaching modalities and academic performance

Perceived Effects of Teaching Modalities	Academic Performance
	General Weighted Average
Modular Distance Learning	-.044
	(.587)
Online Distance Learning	-.055
	(.495)
Overall	-.054
	(.504)

p*<.05

It is clear that student grades alone do not justify the two modalities, as it turns out that these two variables are not significantly related. With this in mind, researchers believe predicting a student's educational background is essential if the student is externally or internally motivated. As mentioned earlier, individuals who are essentially willing to learn to do so to enjoy learning, not for external rewards (Slavin, 2019). In contrast, these implications are not included in the study in measuring the relationship between the underlying variables. Also, factors such as students' communication skills, learning facilities, and proper guidance are reasons the researchers do not mention in the study. In addition, the study by Lucero (2021) Shows that the use of different teaching methods in the range has nothing to do with how well students work in the Class. Greene et al. (2018) added that there was no significant relationship between the academic achievement of the course and the way it was conducted.

Conclusions

Based on the results of the study, the following conclusions were derived:

1. In modular distance learning, it revealed its effectiveness of modular distance learning despite its challenges amidst the COVID-19 pandemic. The majority of the students agreed that they could save money that would be spent on travel, lodging, and transportation and have much time to answer the activities in a modular teaching method. On the other hand, students disagree with the question. I prefer a modular distance learning approach rather than traditional face-to-face instruction. The Hypotheses have been put forward to be insignificant in the face of differences in students' perceptions of modular distance education. Additionally, online distance learning present that most students are satisfied with online learning. Moreover, students are affected most because they are more familiar with the traditional learning environment, and students may feel that they are generally more isolated in

the virtual learning environment.

2. Relatively, there is no significant relationship between the variables seen in the results of the study. Therefore, it can be concluded that the academic performance of the BEED students was not affected by their perceptions regarding modular distance learning and online distance learning. This means that the quality of the performance of the students in getting high, average, and low grades did not depend on their perceptions.

3. Thus, neither of the findings supported the theoretical assumptions that there is a significant relationship between and among the measures nor affirms that no specific indicator/domain in modular distance learning and online distance learning can influence students' academic performance.

In the light of the aforementioned findings and conclusions of this study; the following recommendations were offered:

1. For school instructors, the modular distance learning approach should continue face-to-face instruction even if the COVID-19 pandemic vanishes. Since it proved that this would improve the understanding and help the students to get higher performance, it is highly recommended to use modules during instruction for students to read about the specific topic in advance. Also, teachers should monitor the learner's progress and feedback mechanisms and guide those who need special attention. They should also need to be more flexible and balanced in all situations.

2. For students, based on the findings obtained from this study, the researchers suggest that a distance education course should provide students with great flexibility in interacting with their instructor, classmates, and the course content. The students should have the skills to use online tools and perceive that distance education is a valuable and flexible way of learning, communicating, and sharing, their enjoyment of online instruction will be promoted as recommended.

3. For the future researchers, although this study significantly contributes to determining the perceived effect of teaching modalities on the student's academic performance, this study also has a few limitations that could be minimized in further studies. They may conduct the same study on other fields, or they can investigate other variables influencing the student's academic performances. Also, other variables were not investigated in this study and related studies. They can also use modular distance learning and online distance learning as predictors of the student's academic performance.

References

Aksan, J. A. (2021). Effect of modular distance learning approach to academic performance in mathematics of students in Mindanao state university-sulu senior high school amidst Covid-19 pandemic. *Open Access Indonesia Journal of Social Sciences*, *4*(4), 445-467.

Alexander, S. (2001). E-learning developments and experiences. *Education+ Training*.

Asikhia, O. A. (2010). Students and teachers' perception of the causes of poor academic performance in Ogun State secondary schools [Nigeria]: Implications for counseling for national development. *European Journal of Social Sciences, 13*(2), 229-242.

Balluerka, N., Rodríguez, M., Gorostiaga, A., & Vergara, A. I. (2008). Development of a questionnaire to evaluate pilot schemes adapting undergraduate courses to the requirements of the European Higher Education Area (EHEA). *European Psychologist*, *13*(3), 222.

Bougie, R., & Sekaran, U. (2019). *Research methods for business: A skill building approach*. John Wiley & Sons.

Briggs, S. (2015, November 22). *The changing role of the teacher: 5 ways to adapt. InformED*. Retrieved October 18, 2022, from https://www.opencolleges.edu.au/informed/features/the-changing-role-of-the-student-9-ways-to-adapt-in-2015/

Carrol, N. E., & Burke, M. (2010). Learning effectiveness using different teaching modalities. *American Journal of Business Education, 3*(12), 65-76.

Greene, J. A., Cartiff, B. M., & Duke, R. F. (2018). A meta-analytic review of the relationship between epistemic cognition and academic achievement. *Journal of Educational Psychology, 110*(8), 1084.

Hightower, A. M., Delgado, R. C., Lloyd, S. C., Wittenstein, R., Sellers, K., & Swanson, C. B. (2011). Improving student learning by supporting quality teaching.

Isa, S. G., Mammam, M. A., Badar, Y., & Bala, T. (2020). The impact of teaching methods on academic performance of secondary school students in Nigeria. *International Journal of Development Research, 10*(6), 37382-37385.

Lapitan Jr, L. D., Tiangco, C. E., Sumalinog, D. A. G., Sabarillo, N. S., & Diaz, J. M. (2021). An effective blended online teaching and learning strategy during the COVID-19 pandemic. *Education for Chemical Engineers*, 35, 116-131.

Lim, E. J. (2016). Effectiveness of modular instruction in word problem solving of BEED students. *IOSR Journal of Mathematics (IOSR-JM), 12*(5), 59-65.

Llego, M.A., 2020. *DepEd learning delivery modalities for school year 2020-2021*. Available: https://www.teacherph.com/deped-learning-delivery modalities

Lucero, A. I. (2021). Instructional strategies of teachers and academic performance of intermediate learners in Araling Panlipunan. *International Journal of Research Publication and Reviews, 2*(3), 336–342.

McLeod, S. A. (2019, May 20). *What a p-value tells you about statistical significance*. Simply Psychology. www.simplypsychology.org/p-value.html

Rasmitadila, R., Widyasari, W., Humaira, M., Tambunan, A., Rachmadtullah, R., & Samsudin, A. (2020). Using blended learning approach (BLA) in inclusive

education course: A study investigating teacher students' perception. *International Journal of Emerging Technologies in Learning (IJET), 15*(2), 72-85.

Saavedra, J, (2020, March 30). *Educational challenges and opportunities of the Coronavirus (COVID-19) pandemic*. Retrieved from. https://blogs.worldbank.org/education/educational-challenges-and-opportunities-covid-19-pandemic

Saribas, D., & Bayram, H. (2009). Is it possible to improve science process skills and attitudes towards chemistry through the development of metacognitive skills embedded within a motivated chemistry lab? A self-regulated learning approach. *Procedia-Social and Behavioral Sciences, 1*(1), 61-72.

Sharma, K., Deo, G., Timalsina, S., Joshi, A., Shrestha, N., & Neupane, H. C. (2020). Online learning in the face of COVID-19 pandemic: Assessment of students' satisfaction at Chitwan medical college of Nepal. *Kathmandu University Medical Journal, 18*(2), 40-47.

Simkus, J. (2022, Jan 07). *Quota sampling: Definition, method and examples*. Simply psychology. www.simplypsychology.org/quota-sampling.html

Slavin, R. E. (2019). *Educational psychology: Theory and practice*.

Smith, D., & Hardaker, G. (2000). E-learning innovation through the implementation of an internet supported learning environment. *Journal of Educational Technology & Society, 3*(3), 422-432.

Tria, J. Z. (2020). The COVID-19 pandemic through the lens of education in the Philippines: The new normal. *International Journal of Pedagogical Development and Lifelong Learning, 1*(1), 2-4.

Wright, G. B. (2011). Student-centered learning in higher education. *International Journal of Teaching and Learning in Higher Education, 23*(1), 92-97.

Zakaria, E., Chin, L. C., & Daud, M. Y. (2010). The effects of cooperative learning on students' mathematics achievement and attitude towards mathematics. *Journal of Social Sciences, 6*(2), 272-275.