

Academic performance and grade 9 students experiences on distance education learning modality

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Abstract: This study determined the academic performance and experiences of Grade 9 students on distance education modality using a mixed-method research design. Survey questionnaires were administered to 30 students enrolled in synchronous and asynchronous (15) classes, respectively, to establish the relationship between academic performances, their attitude toward Mathematics, and their satisfaction level with distance learning. In addition, a focus group discussion was also conducted to know the student's experiences with distance learning. The findings of the study are: 1) the student's academic performance in Mathematics was Outstanding; 2) the students in both Synchronous and Asynchronous classes found the subject Important; 3) they were Moderately Satisfied with distance learning of delivering instruction; and 4) there was no significant relationship between academic performance in Mathematics, attitude toward the subject, and satisfaction level in distance learning. In addition, the students identified poor internet connection and lack of gadgets experiences as challenges in distance learning modality. Therefore, it is recommended that the school, parents, and teachers continue to provide support and assistance to the students to improve their academic performance and distance learning experiences.

Keywords: performance, attitude, satisfaction level, technology

The outbreak of COVID-19 affected all aspects of human activities globally through different sectors and the worst sector that was hit by this outbreak is the education sector (Onyema et al., 2020). Governments worldwide implemented strict quarantine protocols and temporarily shut down of educational institutions to control the spread of COVID-19. This has affected millions of learners from basic to tertiary education. However, education experts argued that learning must continue even in emergency situations like war and pandemic. This was also emphasized by the Philippine Department of Education (DepEd) Secretary, Leonor Briones, when she said that education must continue even in times of crisis whether it may be a calamity, disaster, emergency, quarantine, or even war (DepEd, 2020). Thus, adopted three distance mode of delivery so that the Filipino students can better cope with this pandemic: 1) delivery of printed modules, 2) access to DepEd commons which is an online education platform that DepEd developed to support the students, and 3)

delivery of the lessons or self - learning modules via radio and television (Magsambol, 2020).

The new modality of delivering education requires teachers to adopt new pedagogical concepts, and adjust the teaching strategies and concepts appropriate to ensure learning continuity even during emergencies. Throughout this time, children and students have had to rely more on their own resources to continue studying remotely via the Internet, television, or radio. Teachers may not explain concepts thoroughly enough or provide enough material for study sessions. This prevents students from understanding what they're learning and motivating them to improve (Kilag et al., 2022). That is why teachers have to adjust to new pedagogical concepts and techniques that they themselves grope. Learners from the most marginalized groups, who lack access to digital learning tools or the resilience and engagement to study on their own, are more vulnerable to falling behind (Schleicher, 2020).

In this time of COVID-19, distance education learning became a necessity for learners and educators all over the world (Ali, 2020). It is because from the outset, the goal of education concentrates attention on the development of the students and the guidance of the educators (Bendanillo, 2022). However, due to the emergence of COVID-19 pandemic, it is the first time that distance learning modality was used with such many things uncertain due to lack of experience. Hence, this study focused on the academic performance and the Grade 9 experiences of the students to gain insights to address the gaps in the learning modality experiences of distance education learning during this pandemic.

RESEARCH METHODOLOGY

This is a quantitative study which employed a mixed-method in its research design, conducted a survey to the respondents in a conducive and suited environment which can be found in the research environment and research respondents. The researcher then utilized tool instrument to gather and analyze the statistical data in this research study.

Research design

This study used a mixed method research design to understand the student's learning experiences during this COVID-19 pandemic. The quantitative phase used two types of survey questionnaire to gather data on students' attitude towards Mathematics and their satisfaction level. For the qualitative phase, focus group discussion was also conducted to have a deeper insight on the students' learning experiences in the synchronous and asynchronous classes.

Research environment

This study was conducted at one of the private high schools in Cebu Province. It offers Basic Education from elementary to high school. It has a total number of 606 students, 195 students for elementary, while 411 for the high school. In addition, the

school has 10 elementary teachers and 16 high school teachers. It offers two kinds of learning modality where the students wish to be enrolled which are the synchronous classes and asynchronous classes.

Research Respondents

The respondents of this study were Grade 9 students who were in synchronous classes and asynchronous classes during the school year 2020-2021. There were 20 students in the synchronous classes and 59 students in the asynchronous classes. A simple random sampling was used to select the 15 respondents from each class. A total of 30 students participated in this study.

Data gathering procedure

A letter of intent to conduct the study was submitted to the Office of the School Head or Principal (see Appendix A). Upon approval, the consent letter was distributed to the parents or guardians of the respondents informing them that their child would be one of the respondents of an educational study that their engagement is purely an aid of research and that risks are not involved during and after their participation. The parents were further assured that students' identity will be protected and the results will be used for academic purposes which will not affect students grades (see Appendix B). A letter for the research instrument of MAS (see Appendix C), SSS (see Appendix D), and FGD (see Appendix E) also got permission from the experts to be used in this study. After all the permissions were obtained, the MAS (see Appendix F) and SSS (see Appendix G) were conducted using Google Forms; while the FGD (see Appendix H) was also held the following day. The FGD was done in groups, with synchronous and asynchronous participants divided into two groups. The FGD was conducted online using Google meet. The participants were also tasked to also write their answers into Google Forms. Furthermore, the student's fourth grading grades in Mathematics was also obtained.

Research instruments

This study utilized three types of research instruments to gather the data needed to answer the research questions. The first instrument, the Mathematics Attitude Scale (MAS), was adopted from Facultad and Sebial (2019). It was used to assess the students' attitude towards Mathematics using a 5 -Point Likert Scale: 4.21- 5.00, Very Important (VI); 3.41 - 4.20,

Important (I); 2.61 - 3.40; Moderately Important (MI); 1.81 - 2.60, Slightly Important (SI);

1.00 - 1.80, Unimportant (U). Note that the descriptors or interpretation of the 5-point Likert scale use to measure the student's attitude towards Mathematics was modified by the researcher to fit the study.

The second instrument is the Student Satisfaction Survey (SSS), which was adopted from Strachota (2003). It is used to collect the data to measure the

satisfaction level of the students in the following areas: learner-content interaction, learner-instructor interaction, learner- learner interaction, learner-technology interaction, and general satisfaction. All survey items included a 4 -Point Likert scale of 4 - satisfied, 3 - moderately satisfied, 2 - slightly satisfied, and 1 - not satisfied.

The third instrument is an adapted Focus Group Discussion Interview Questions from Akyildiz (2020), which is used in addressing the student's perspectives towards distance education specifically on this COVID-19 pandemic.

Statistical treatment of data

The following were the statistical tools used by the researcher to treat the gathered data in this study.

1. The weighted mean was used to determine the student’s attitude towards mathematics and the satisfaction level of the synchronous learners and asynchronous learners. Then the mean score was interpreted accordingly based on the criteria set for range of scores.

Formula: $\bar{x} = \frac{\sum x}{n}$

where:

\bar{x} = mean score,

$\sum x$ = sum of the scores, and

n = sample size.

2. The Pearson Product Moment of Correlation Coefficient (r) was used to determine the relationship between students’ attitude towards mathematics and academic performance and satisfaction level in the synchronous classes and asynchronous classes.

Formula: $r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n(\sum x^2) - (\sum x)^2][n(\sum y^2) - (\sum y)^2]}}$

where:

n = number of pair scores,

$\sum x$ = summation of the values of x ,

$\sum y$ = summation of the values of y ,

$\sum xy$ = summation of the product of x and y ,

$\sum x^2$ = summation of the values of x^2 , and

$\sum y^2$ = summation of the values of y^2 .

All statistical analyses were done at 5% level of significance.

RESULTS AND DISCUSSION

Academic performance in mathematics of the grade 9 students in synchronous and asynchronous classes

Table 1 shows the Grade 9 students’ academic performance in Mathematics.



Table 1

Students' Mathematics Performance in Synchronous and Asynchronous classes

(n= 30)

Class	nO	VS	S	FS	DN	M	SD	Qualitative Description
Synchronous	15 12	3	-	-	-	92.60	2.64	Outstanding
Asynchronous	15 12	3	-	-	-	92.53	3.23	Outstanding

Note. The rating scale and qualitative description is based on DepEd Memo #8, s. 2015:

90.00 to 100.00 - Outstanding (O); 85.00 to 89.99 - Very Satisfactory (VS); 80 to 84.99 - Satisfactory (S); 75.00 to 79.99 - Fairly Satisfactory (FS); 74.99 and below - Did not meet expectation (DN).

Table 1 presents the results of the respondents' academic performance in Mathematics. The synchronous classes have a mean of 92.60 (Outstanding) and 92.53 (Outstanding) for the asynchronous classes. This shows that the students responded positively to all the statements that represent the flexibility of distance learning; and accordingly, based on the analyzed and evaluated grades, the respondents were well-performing. It further indicates that improvements should be made to the distance learning process and more specifically to mathematics learning. Furthermore, it also suggests that students' performance in mathematics even improved during covid-19 pandemic (Spitzer & Musslick, 2021). This is because many developing countries have also done a remarkable job to provide education through learning management systems or open access internet tools like teams, Skype, Zoom, and Google Meet, Facebook etc. (Yamin, 2020). Altogether, the analyses of the data reported in this study suggests that the respondents' academic performance in wake of the covid-19 pandemic had no detrimental effect in an online learning environment for mathematics.

Attitude of the students towards mathematics in the synchronous and asynchronous classes

The students' attitude towards Mathematics is shown in Table 2

Table 2

Student's Attitude towards Mathematics in Synchronous and Asynchronous classes (n= 30)

(n= 30)

Category	Synchronous		Asynchronous	
	Mean	Interpretation	Mean	Interpretation
Students' Perceived Motivation and Support in Learning Mathematics	3.97	I	4.06	I

Students' Perceived Anxiety in Learning Mathematics	3.22	<i>MI</i>	3.79	<i>I</i>
Students' Perceived Self-Efficacy in Learning Mathematics	3.48	<i>I</i>	3.56	<i>I</i>
Teachers' and Parents' Influences to Students in Learning Mathematics	2.98	<i>MI</i>	3.11	<i>MI</i>
Overall Mean Interpretation	3.41	<i>I</i>	3.63	<i>I</i>

Note. 4.21 - 5.00, Very Important (VI); 3.41 - 4.20, Important (I); 2.61 - 3.40, Moderately Important

(MI); 1.81 - 2.60, Slightly Important (SI); 1.00 - 1.80, Unimportant (U).

Table 2 presents the students' attitude towards Mathematics using the MAS questionnaire. The questions were grouped into four categories. First, the Students' Perceived Motivation and Support in Learning Mathematics have a rating average of 3.97 (Important) in synchronous and 4.06 (Important) in asynchronous classes, respectively. The questions in this category included student's perception and motivation in learning Mathematics and the availability of support from teachers and parents. The data may imply that students find Math valuable in their life and future careers. They may also have received encouragement from their parents and teachers resulting to better performance in the subject. The result of this study confirmed the findings of the previous research which stated that teachers' practices and encouragement increase the students' motivation and engagement to learn mathematics (Way et al., 2014).

Second, the Students' Perceived Anxiety in Learning Mathematics have a rating average of 3.22 (Moderately Important) for the synchronous, and 3.79 (Important) for the asynchronous classes, respectively. This category included questions on student's perception and feelings when taking exams, solving Math problems and making assignments. The data in this study may imply that student's gets tense when there is a scheduled Math test and gets nervous when taking it. They studied the lessons, but they were worried that they would not be able to answer the test. This result confirmed the findings of the previous study that mentioned that during this distance learning, the Mathematical anxiety of the learners increased for most of the students because of less confidence and frustrations of not knowing how to answer the problems which caused a panic on answering questions online (Christiansen, 2021). Though the respondents reported that they can get support from their parents and teachers in learning the subject, the limited teacher-learner interaction due the distance learning modality may have contributed to their anxiety and lack of confidence in taking examinations. This result corroborated the findings of previous research which found strong correlation between teacher-learner interaction and the student's academic emotions such as enjoyment, hopelessness, boredom, anxiety, and anger (Lei et al., 2018).

Third, the Students' Perceived Self-Efficacy in Learning Mathematics have a rating average of 3.48 (Important) in synchronous and 3.56 (Important) in asynchronous classes, respectively. The questions for this category included students' understanding and ability to tackle lessons in Mathematics. The data in this study may imply that the students were certain that they can get good grades in the subject especially if they work hard and understands the concepts well. These findings support the previous study which stated that students' who are confident in their abilities in mathematics have high self-efficacy (Negara et al., 2021).

Fourth, the Teachers' and Parents' Influences on Students in Learning Mathematics have a rating average of 2.98 (Moderately Important) in the synchronous and 3.11 (Moderately Important) in the asynchronous class, respectively. The questions in this category includes how both teachers and parents guide the students in learning mathematics. The data may imply that the respondents were conflicted about how their parents and teachers views towards Mathematics can impact their learning towards the subject. The respondents reported that they strongly agree with their parents' view that learning mathematics is important, but they enjoy being eager to learn more about the subject when the teachers are not too strict. These findings confirmed the previous studies which stated that parents support by facilitating, promoting independence, and providing resources (Williams et al., 2021) and through teachers, the students were get motivated, active in learning, eager to participate, and willing and able to put in effort (Sofya et al., 2021).

Furthermore, the overall weighted mean of the student's attitude towards Mathematics in synchronous and asynchronous classes are 3.41 (Important) and 3.63(Important), respectively. The data in this study may imply that amidst this pandemic, students still find Mathematics an important and valuable subject to learn. They enjoy math even though they seem it is difficult and believed in their capabilities in the lesson. And the supports given by their teachers and parents have a great impact on them to learn the subject. These findings confirmed the previous study which stated that students have struggled to grasps math class and complete the task, but the majority of them like it with the help of their teachers especially when they had problems that need immediate feedback (Tezer et al., 2021).

Student satisfaction survey towards distance education

Table 3 presents the result of the students' level of satisfaction survey in synchronous and asynchronous classes.

Table 3

Satisfaction Level of Students in the Synchronous and Asynchronous classes (n=30)

Indicators	Synchronous	Asynchronous
	Mean Interpretation	Mean Interpretation

Learner - Content Interaction	3.21	<i>MS</i>	3.10 <i>MS</i>
Learner - Instructor Interaction	3.06	<i>MS</i>	3.12 <i>MS</i>
Learner - Learner Interaction	2.82	<i>MS</i>	2.90 <i>MS</i>
Learner - Technology Interaction	2.67	<i>MS</i>	2.76 <i>MS</i>
General Satisfaction	2.48	<i>SS</i>	2.56 <i>MS</i>
Overall Mean	2.85	<i>MS</i>	2.89 <i>MS</i>

Note. 3.26 - 4.00, Satisfied (S); 2.51 - 3.25, Moderately Satisfied (MS); 1.76 - 2.50, Slightly Satisfied (SS); 1.00 - 1.75, Not Satisfied (NS).

The Student Satisfaction Survey (SSS) towards distance education learning was presented into four categories: Learner-Content Interaction; Learner-Instructor Interaction; Learner- Learner Interaction; and, Learner-Technology Interaction. From Table 3, it can be gleaned that the respondents in the synchronous (3.21) and asynchronous (3.10) classes were Moderately Satisfied in the Learner-Content Interaction. The questions in this category included how the learners deal with different learning materials related to lessons in Mathematics. The data in this study may imply that the assignments, projects, quizzes, exams, lessons or lecture notes, and websites helped the students learned their lessons, and acquire critical thinking and problem-solving skills. This result confirmed the findings that mentioned that maintaining high quality of e-learning has a positive impact to the satisfaction of the students, and the possibility of being infected by COVID-19 has no effect on the quality of the e-learning (Kumar et al., 2021). Second, for the Learner-Instructor Interaction category, the respondents were also Moderately Satisfied with a weighted mean of 3.06 (Moderately Satisfied) and 3.12 (Moderately Satisfied), for synchronous and asynchronous classes, respectively.

This category included questions about how active the teachers were during synchronous classes, and how often they give feedback to their students. The data in this study implies that students received timely feedback from their teacher and were able to consult with the teacher one on one especially when needed help in the lessons. In addition, the teachers may have communicated with the students regularly, and given them reminders and encouragements, hence, their presence was felt even if classes were held remotely during the pandemic. This result corroborated the findings of Dunaway and Kumi (2021) which stated that immediate feedback from instructor can boost learners' confidence which consequently help them learn their lessons. Regardless of the mode of delivery, instructor-learners interactions play a critical role in learning especially during this pandemic.

Third, the Learner-Learner Interaction have a mean of 2.82 (Moderately Satisfied) for the synchronous, and 2.90 (Moderately Satisfied) for the asynchronous classes, respectively. This category included questions on how the communications with fellow learners helped them cope with the academic demands during the

pandemic. The data in this study may imply that the learners are able to communicate with their classmates despite the distance education learning mode. The students may have been also encouraged to discuss their ideas and concepts through the academic tasks assigned to them, hence they did not feel isolated despite the distance learning modality. This result which indicated moderate satisfaction on learner- learner interaction confirmed the previous findings that stated that interactions between the learners greatly affects their satisfaction on distance education learning (Alqurashi, 2019); and that the lack of peer influence between learners can result to higher satisfaction in peer communication (Bailey, 2021).

Fourth, the Learner-Technology Interaction category have a rating of 2.67 (Moderately Satisfied) in the synchronous, and 2.76 (Moderately Satisfied) in the asynchronous classes, respectively. The question in this category included how technology helps and assists the learners during this pandemic. The data may imply that the students were more productive in using computers/gadgets. Students enjoy working and make learning more interesting while using the gadgets because these made their work easier. An FGD participant mentioned that they can also search on the internet for additional sources which helped them understand the lesson. These findings are comparable to Fatani (2020), who emphasized the role of technology in distant education learning for both teachers and learners.

Fifth, the respondents of synchronous class (2.48) were Slightly Satisfied on distance learning modality in delivering instructions, while students in asynchronous Class (2.56) were Moderately Satisfied. This data on the General Satisfaction of Distance Learning may imply that students understood the reason for the shift in the mode of delivery and recognized that they continue to receive support and learn despite the distance learning; however, they were also aware of its limitations in meeting the needed competencies compared to face-to-face classes. These findings support the previous study which stated that due to economic and technological restrictions, students were hesitant to adopt the distance learning (Baloran, 2020).

Furthermore, the overall level of satisfaction of students of distance learning is 2.85 (Moderately Satisfied) and 2.89 (Moderately Satisfied) for the synchronous and asynchronous classes, respectively. The data in this study may imply that students of both synchronous and asynchronous classes were able to ask clarification from their fellow classmates, received feedback from their teacher in which they can learn at their own pace since they were given enough time to complete that task, which is facilitated by constantly encouraging them and technologies that also help them. An FGD participant exclaimed that "It's also nice to learn in the comfort of our own homes" and the teachers also gave them enough time to finish the tasks. These findings support the previous study which stated that there was a positive impact on both synchronous and asynchronous classes as they were given an amount of time in

completing the task, clarify difficult topics that were discussed, and video lectures as supplementary tools to achieve the learning outcomes of the modules in online learning (Lapitan et al., 2021).

Relationship between attitude towards the subject, satisfaction level on Distance learning, and the student’s academic performance in mathematics

The relationship between the student’s academic performance in Mathematics, their attitude towards the subject and satisfaction level in distance learning is shown in Table 4.

Table 4

Pearson Product Moment of Correlation Coefficient (r) between Attitude towards the Subject, Satisfaction level in Distance Learning and the Student’s Academic Performance in Mathematics

Variables	Academic Performance	Attitude towards Mathematics	Satisfaction level
Academic Performance	—	$r = -0.117;$ $p = 0.678ns$	$r = 0.195;$ $p = 0.487ns$
Attitude towards Mathematics	$r = 0.351;$ $p = 0.200ns$	—	$r = 0.340;$ $p = 0.216ns$
Satisfaction level	$r = 0.105;$ $p = 0.709ns$	$r = 0.039;$ $p = 0.891ns$	—

Note: Values above the diagonal line are correlations of variables for the synchronous class while values below the diagonal are correlations for the asynchronous class.

* significant at $\alpha = .05$ level of significance (two-tailed test). nsnot significant at $\alpha = .05$ level of significance (two-tailed test).

The table shows that the value of correlation coefficient between the students’ academic performance in mathematics, their attitude towards the subject and satisfaction level in the synchronous classes and asynchronous classes is clearly reflected and which is at a significant level of 0.05. As reflected in the table, the value of correlation coefficient between attitude towards the subject is ($r = - 0.117, p > .05$), which is not significant at 0.05 level of significance. This refers that the variable ‘academic performance’ and attitude towards the subject are very low positive correlation which suggest us to conclude that the students who feel themselves the positive attitude in mathematics have comparatively better performance in mathematics, parallel findings were also obtained by (Seaton et al., 2014).

Table 4 further shows the results of the correlation between attitude towards Mathematics, satisfaction level in distance learning, and academic performance of the students on the subject at a significant level of 0.05 (two-tailed). Particularly, in the synchronous class, the table shows the Pearson product of academic performance in Mathematics, and attitude towards the subject was found to have No correlation or

Very low negative correlation and statistically not significant ($r = -0.117, p > .05$); hence, failed to reject H01. The academic performance in Mathematics and satisfaction level in distance learning were also found to have No correlation or Very low positive correlation and statistically not significant ($r = 0.195, p > .05$); hence, failed to reject H02. In addition, the attitude towards Mathematics and satisfaction level in distance learning was also found to have a Low positive correlation and statistically not significant ($r = 0.340, p > .05$); hence, failed to reject H03. This clearly shows that the students' attitudes toward Mathematics and their satisfaction level with distance learning modality do not affect their academic performance on the subject, and their attitudes toward Mathematics have no detrimental impact on their satisfaction level with distance learning. This may be because the respondents were composed of well-performing students (see Table 1) who can easily adopt and adjust to different learning modalities. They also know how valuable and important Mathematics is towards their lives and were able to maximize the use of technology in learning during the pandemic. These findings contradicted the previous studies which stated that attitude towards the subject has a greater impact on students' academic performance (Peteros et al., 2019) and because of students' high level of satisfaction, it automatically increases the students' academic performance (Basith et al., 2020).

The Pearson product of academic performance in Mathematics and attitude towards the subject in asynchronous class was found to be Low positive correlation and statistically not significant ($r = 0.351, p > .05$); hence, failed to reject H04 and the academic performance in Mathematics and satisfaction level in distance learning was also found to have No correlation or Very low positive correlation and statistically not significant ($r = 0.105, p > .05$); hence, failed to reject H05. In addition, the attitude towards Mathematics and satisfaction level in distance learning was also found to have Low positive correlation and statistically not significant ($r = 0.039, p > .05$); hence, failed to reject H06. These results show that in asynchronous classes, the academic performance has nothing to do with the student's attitude on the subject and their satisfaction level in the distance learning modality. This may also be due to the well-performing characteristics of the respondents as reflected in Table 1. The respondents were able to navigate well despite the challenges of distance learning modality in delivering instructions during the COVID-19 pandemic because they were smart, and they understood the importance of learning the subject. These findings rejected the previous studies which stated that attitude towards the subject has a greater impact on students' academic performance (Peteros et al., 2019) and that student satisfaction and academic performance have a significant effect on asynchronous classes because of the detailed guidelines on task and activities were clearly provided (Kim et al., 2021). The findings of the study are matched with the findings of the study done by (Mulcahy et al., 2016) also supports the findings of

the present study as the positive teacher- student relationship may cause for developing the positive attitudes among students towards mathematics and lead students towards the better performance in mathematics.

Students' experiences in distance learning students in synchronous classes

The respondents admitted that their experiences on having synchronous classes were challenging for them because of the poor internet connection, lack of gadgets, high cost of internet, the number of academic requirements and difficulty in understanding the lessons. According to the Focus Group Discussion (FGD) participant, the problematic internet connection made it difficult for them to focus on class discussions. Another participant also complained that doing online classes is quite expensive to them due to high cost of internet load they incur per month.

The lack of gadget for online classes such as smartphones and laptop also contributed to the difficulty in distance learning. An FGD participant mentioned that not all students have gadget such smartphones or laptop to be used for synchronous classes. In addition, the number of assigned academic tasks and the difficulty in understanding the lessons without the help of the teachers also posed a major challenge to students attending synchronous classes.

The FGD participant also mentioned positive experiences of distance learning. One participant said that waking up early to prepare to school is no longer a problem for classes are conducted at home. One participant exclaimed that "It's also nice to learn in the comfort of our own homes". Another participant mentioned that one of advantages of distance learning was they can also search in the internet for additional sources to help them understand the lessons.

Students in asynchronous classes

The students attending the asynchronous classes also experienced difficulty in distance education learning. The FGD participant mentioned learning during the COVID-19 pandemic was confusing and stressful due to numerous assigned activities. One of the participants related that doing so many activities was 'the worst experiences' of their life because they were not learning but doing it for compliance's sake. One participant also mentioned that they must compete with other family members in using the internet at home because some were also attending classes or working from home, hence, access to the internet was difficult.

The FGD participants said that their experience in doing asynchronous classes improved during the second semester because the teachers reduced the number of activities given to the students. Though some students, the participants said, felt that the workload in distance learning is heavier compared to face-to-face classes, the teachers also gave them enough time to finish the tasks.

Findings of the study

These were the findings of the study:

1. The academic performance in Mathematics of the Grade 9 students in both synchronous and asynchronous classes were Outstanding.
2. The students in both synchronous and asynchronous classes found Mathematics Important.
3. The students in synchronous and asynchronous classes were Moderately Satisfied with the distance learning modality of delivering instructions.
4. There is no significant relationship between the students' academic performance, their attitude toward Mathematics, and the satisfaction level in distance learning in both synchronous and asynchronous classes.
5. The experiences of the students in synchronous is that they were able to attend class on their homes which they do not need to wake up early and search in the internet for the additional sources to help them understand the lessons while in asynchronous classes, their experienced had improved because of the teachers reduced the amount of activities given to them. However, both modalities let the students experienced the lack of gadgets, poor internet connection, and difficulties in understanding the lesson.

Conclusion

Teachers have a critical influence on the academic performance of their learners. They can significantly influence the academic growth of their students. Teachers' knowledge of appropriate strategies and creativity to deliver instruction is also dependent on the learning modalities and the available learning resources.

The study revealed that attitude on the subject and the satisfaction level with distance learning modality do not affect the academic performance of well-performing students. The learners were able to adjust and adapt to the different learning modalities, especially if provided with support and encouragement from teachers and parents who assisted them in their lessons and helped them understand the importance of learning during this pandemic. This finding confirmed the Self-Directed Learning Theory, which states that individuals who take the initiative can learn better than those who wait for instructions. Furthermore, the Theory of Interaction and Communication which highlighted the importance of student's overall comfort to ask questions and discuss the lessons with teachers in learning was also validated in this study. With reference to the finding and discussion mentioned above, it can be concluded that the academic performance, attitudes and satisfaction level of students towards mathematics do not necessitate a significant relationship pertaining to the subject matter. Although what sorts of attitudes do the students hold towards mathematics reflect their performance in mathematics most especially as that of well-performing students. The challenging part in reaching better teacher-learning outcomes in math, positive attitudes towards mathematics is imperative among students.

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