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# Google Classroom in Graduate Education: Its Effectiveness and Challenges in An Island University in The Central Philippines

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| Article History | Abstract |
|---|---|
| | *This study aimed to determine the effectiveness and challenges in the use of google classroom in Graduate Education at Guimaras State University, an island university in the Central Philippines, for Academic Year 2022-2023. A descriptive research design was used in this study utilizing 330 respondents who were purposively chosen through convenience sampling technique. A researcher-made questionnaire was employed in gathering the data needed. Frequency count, percentage ranking, mean, Mann Whitney U-test, Kruskal Wallis H-test, Chi-square and Spearman's rho were the statistical tools used and the level of significance was set at .05. It was found out that the use of google classroom in Graduate Education at Guimaras State University was at very high level of effectiveness as assessed by the respondents as a whole and when classified according to age, civil status, course, type of program and status of employment; the graduate students considered the use of google classroom challenging due to lack of high speed internet in the island province; the respondents had varying assessment on the level of effectiveness in the use of google classroom when they were classified according to civil status, course and type of program but similar when they were classified according to age and status of employment. The respondents encountered different challenges when they were classified in terms of their age, course and type of program and encountered similar challenges in the use of google classroom in their graduate studies when they were classified according to their civil status and status of employment; and the effectiveness and challenges in the use of google classroom in the Graduate Education were not significantly related.* |
| | **Keywords:** *Google Classroom, Effectiveness, Challenges* |

## 1. Introduction

The landscape and perspective in offering graduate programs have dramatically changed in the past decades. These changes demand new or enhanced competencies among students to meet the requirements set by globalization, regional integration, internationalization of higher education, and the Fourth Industrial Revolution. Thus, students must be able to optimally use 21st century skills in their daily work and professions there by strengthening the nation's innovation, research and development. (CHED MEMORANDUM ORDER No. 15, Series of 2019).

As the Philippine education system has been undergoing reforms, the occurrence of COVID-19 has resulted in schools shut all across the world. As a result, education has changed dramatically, with the distinctive rise of e-learning, whereby teaching and learning is undertaken remotely and on digital platforms. Along with these changes, the Guimaras State University has developed a Learning Continuity Plan (LCP) which focuses on the transition of the University from the traditional teaching and learning to the Flexible learning modalities as it adapts to the changes in the educational landscape brought about by the worldwide health pandemic where Google Classroom is one of the online platforms adopted by the University.

Google classroom is part of the online Google Apps for Education (GAFE), suite of packed productivity applications for teachers and students in learning and online collaboration. This application provides a central site for communicating with students that starts with creating classes and adding students, then it explores the features found in these applications such as sending information, starting discussions, distributing and collecting taks, Zhang, M. (2016).

As there are studies on goggle classroom that show about the use of their technology in learning process particularly its effectiveness as a learning medium or an alternative way to embrace learning, it was noted in Guimaras State University specifically in the Graduate education where since the use of it as a teaching-learning online platform in 2020, no study has been conducted yet as to effectiveness of this platform in the delivery of instruction and what challenges have been encountered by the users. Thus, this study was conducted.

**Objectives of the Study**

This study aimed to determine the effectiveness and challenges encountered in the use of google classroom in Graduate Education at Guimaras State University, Province of Guimaras, Philippines for Academic Year 2022-2023. Specifically, this study aimed to determine: (1)the level of effectiveness of google classroom in the Graduate education as assessed by the respondents when they are grouped as a whole and when classified according to age, civil status, course, type of program and status of employment; (2) the challenges encountered by the respondents in the use of google classroom in the Graduate education when they are grouped as a whole and when classified according to age, civil status, course, type of program and status of employment; (3) the significant differences in the level of effectiveness of google classroom in the Graduate education as assessed by the respondents when they are classified according to age, civil status, course, type of program and status of employment; (4) the significant differences in the challenges encountered by the respondents in the use of google classroom in the Graduate education when they are classified according to age, civil status, course, type of program and status of employment; and (5)the significant relationship between the effectiveness and challenges in the use of google classroom in Graduate Education.

**2. Materials And Methods**

Descriptive research was used in this study. This research design is appropriate for studies which aim to find out what prevail in the present condition relationship, held opinions and beliefs, as related processes and effects and developing trends. The purpose of the research is to evaluate or measure the results against some known or hypothesized standards (Werner, 2018).

The respondents in this study were the Graduate School students at Guimaras State University enrolled in the different programs for Academic Year 2022-2023. They were purposively chosen using convenience sampling technique. Table 1 present the data for the distribution of the respondents by course.

**Table 1.** Distribution of the Respondents

| Course | N | n | % |
|---|---|---|---|
| Doctor of Philosophy | 103 | 18 | 5.45 |
| Doctor of Management | 87 | 15 | 4.55 |
| Doctor of Education | 125 | 22 | 6.67 |
| Master of Education | 1094 | 192 | 58.18 |
| Master in Public Administration | 273 | 48 | 14.55 |
| Master in Business Administration | 136 | 24 | 7.27 |
| Master of Arts in Education Teaching Mathematics | 65 | 11 | 3.33 |
| **Total** | **1883** | **330** | **100.00** |

The primary instrument used in gathering data for this study was a researcher – made questionnaire. It consisted of three parts where Part I was on questions about the profile of respondents, Part II wason statements that measured the level of effectiveness of google classroom in Graduate Education and Part III was on the challenges encountered by the respondents in use of google classroom in Graduate Education.

| Means | Description | Interpretation |
|---|---|---|
| **4.21-5.00** | Very High | The use of google classroom in the graduate education is very successful as students have very good academic performance in the flexible learning modality. |
| **3.41-4.20** | High | The use of google classroom in the graduate education is successful as students have good academic performance in the flexible learning modality. |
| **2.61-3.40** | Moderate | The use of google classroom in the graduate education is slightly successful as students have fair academic performance in the flexible learning modality. |

| 1.81-2.60 | Low | The use of google classroom in the graduate education is not so successful as students have poor academic performance in the flexible learning modality. |
| 1.00-1.80 | Very Low | The use of google classroom in the graduate education is not successful as students have very poor academic performance in the flexible learning modality. |

The statistical tools used in this study were the frequency count, percentage, ranking, mean, Mann-Whitney U test, Kruskal- Wallis H test, Spearman's rho and Chi-square.

## 3. Results and Discussion

**Level of Effectiveness of Google Classroom in the Graduate Education as Assessed by the Respondents When They Were Grouped as A Whole**

Data in table 2 revealed that when the respondents were grouped as a whole, they have assessed the level of effectiveness of google classroom in Graduate Education to be very high (M=4.34). For them, the use of google classroom in the graduate school was very successful as students have very good academic performance in the flexible learning modality. For all the indicators, the respondents found it to be very high level of effectiveness except in making unit rubrics and daily rubric goals for which was assessed to be high (M=4.19). Further, the respondents found google classroom as very effective in their graduate studies as it helped them become more aware of the use of online learning platform, an easy to use particularly in the conduct of research online.

**Table 2.** Level of Effectiveness of Google Classroom in the Graduate Education as assessed by the respondents when they were grouped as a whole

| Items | Mean | Description |
|---|---|---|
| makes learning more interesting. | 4.43 | Very High |
| is easy to use. | 4.47 | Very High |
| makesdoing unit rubrics and daily rubric goals on the classroom board compared to the old way of writing on paper. | 4.19 | High |
| makes users more comfortable in interacting with classmates and teachers. | 4.25 | Very High |
| enables writing better than on paper notes. | 4.21 | Very High |
| makes online research easier. | 4.45 | Very High |
| helps find the appropriate links needed. | 4.33 | Very High |
| has improved students' academic performance. | 4.29 | Very High |
| helps students become more aware of the use of online learning platform. | 4.48 | Very High |
| can assist users in creating notes, drafts, and map to complete assignments. | 4.27 | Very High |
| **Overall Mean** | **4.34** | **Very High** |

Scale of Means: 4.21-5.00 – Very High; 3.41-4.20 – High; 2.61-3.40 –Moderate; 1.81-2.60 – Low; and 1.00-1.80 – Very Low

**Level of Effectiveness of Google Classroom in the Graduate Education as assessed by the respondents when they were classified according to age, civil status, type of program, course and status of employment**

As shown in table 3, when the respondents were classified into their profile variables, they have assessed the level of effectiveness of google classroom to be very high the fact that they found it to be successful as they had very good academic performance in the flexible learning modality. However, variations in their respective means were noted where as to age, the highest mean was found in the respondents aging above 45 years old (M=4.37), then with age 30-45 years old (M=4.36) and had the lowest mean with below 30 years old respondents (M=4.29), which shows only that the older the respondents, the more comfortable they were in the use of google classroom in their graduate studies.

As to civil status, the widow/widower had the highest mean for their assessment (M=4.77), followed by the married (M=4.36) and the lowest mean (M=4.30) was given by the single graduate school students. This means that the widow/widower found google classroom more effective in pursuing their graduate studies through the flexible learning modality as compared to the married and single students.

When the course of the respondents was considered, the MATM students assessed the effectiveness of google classroom with the highest mean =4.63, and the lowest from the MBA students with mean = 4.13. This shows that the MATM course which is leading to a teaching profession, the students have found it more adaptable for them as compared to those in business profession.

As to type of program, those enrolled in the doctoral program (M=4.41) had higher mean of assessment as compared to those from the masteral program (M=4.32) as they found easier to use the google

classroom in their graduate studies, for employees like them are occupying multitask positions, the simpler the methodology for them the better as they are performing parallel tasks with their graduate school studies.

For the status of employment, students with the non-permanent status had the higher mean of assessment for the level of effectiveness of google classroom. This is for the reason that being non-permanent employee, their nature of work enabled them to really maximize the use of google classroom in the graduate studies.

**Table 3.** Level of Effectiveness of Google Classroom in the Graduate Education as assessed by the respondents when they classified according to age, civil status, type of program, course and status of employment

| Variables | Mean | Description |
|---|---|---|
| Age | | |
| below 30 | 4.29 | Very High |
| 30-45 | 4.36 | Very High |
| above 45 | 4.37 | Very High |
| Civil Status | | |
| Single | 4.30 | Very High |
| Married | 4.35 | Very High |
| Widow/widower | 4.77 | Very High |
| Course | | |
| DM | 4.37 | Very High |
| MATM | 4.63 | Very High |
| MBA | 4.13 | High |
| MEd | 4.29 | Very High |
| MPA | 4.47 | Very High |
| EdD | 4.38 | Very High |
| Ph.D | 4.49 | Very High |
| Type of Program | | |
| Masteral | 4.32 | Very High |
| Doctoral | 4.41 | Very High |
| Status of Employment | | |
| NON-PERMANENT | 4.35 | Very High |
| PERMANENT | 4.24 | Very High |
| **Overall Mean** | **4.34** | **Very High** |

**Challenges Encountered by the Respondents in the Use of Google Classroom in the Graduate Education When They Were Grouped as A Whole**

Table 4 shows the data which revealed that as a whole, the respondents considered lack of high speed internet, availability of smartphones to most students and lack of extra money to pay for internet café if internet is not available in the library as their most challenging instances in using google classroom for the graduate studies at Guimaras State University, being in an island province. On the other hand, they considered lack of computer unit, lack of technical understanding in searching for the latest information and internet connection is not available in college mode as their least challenging instances.

**Table 4.** Challenges Encountered by the Respondents in the use of Google Classroom in the Graduate Education When They Were Grouped As A Whole

| Items | $f$ | % | rank |
|---|---|---|---|
| Lack of high-speed internet. | 227 | 68.8 | 1 |
| Availability of smart phone to most students. | 190 | 57.6 | 2 |
| Lack of extra money to pay for internet café if internet is not available in the library. | 106 | 32.1 | 3 |
| Difficulty in using link/web link on lesson websites. | 101 | 30.6 | 4 |
| Lack of skills in the web, Google Classroom, and search engine. | 94 | 28.5 | 5 |
| It takes more time to learn to use appropriately. | 92 | 27.9 | 6 |
| Insufficient knowledge and skills in using computer. | 91 | 27.6 | 7 |
| Internet connection is not available in "college mode". | 90 | 27.3 | 8 |
| Lack of technical understanding in searching for the latest information. | 78 | 23.6 | 9 |
| Lack of computer unit during the submission of work. | 67 | 20.3 | 10 |

**Challenges Encountered by the Respondents in the use of Google Classroom in the Graduate Education When they were according to age**

Data in table 5 revealed that graduate school students aging below 30 years old and those at 30-45 years old considered lack of high-speed internet their most, challenging in the use of google classroom while those above 45 years old were greatly challenged in having smart phone and insufficient knowledge and skills in using computer. On the other hand, those aging below 30 years old were least challenged in having insufficient knowledge and skills in using computer, the 30-45 years old in lack of computer unit and in availability of internet connection college mode for above 45 years old respondents. This means that necessary preparation has to be done and looked into in the implementation of google classroom as a learning platform as they are primarily used in the flexible learning modality.

**Table 5.** Challenges Encountered by the Respondents in the use of Google Classroom in the Graduate Education When they were classified according to age

| Items | below 30 | | | 30-45 | | | above 45 | | |
|---|---|---|---|---|---|---|---|---|---|
| | *f* | % | rank | *f* | % | rank | *f* | % | rank |
| Lack of high-speed internet. | 69 | 64.5 | 1 | 135 | 71.4 | 1 | 23 | 67.6 | 3 |
| Availability of smart phone to most students. | 57 | 53.3 | 2 | 109 | 57.7 | 2 | 24 | 70.6 | 1.5 |
| Lack of extra money to pay for internet café if no available unit in the library. | 40 | 37.4 | 3 | 57 | 30.2 | 4 | 9 | 26.5 | 8.5 |
| Lack of skills in the web, Google Classroom, and search engine. | 22 | 20.6 | 7 | 56 | 29.6 | 5 | 16 | 47.1 | 5.5 |
| Internet connection is not available in "college mode". | 28 | 26.2 | 4 | 55 | 29.1 | 6 | 7 | 20.6 | 10 |
| It takes more time to learn to use appropriately. | 23 | 21.5 | 6 | 54 | 28.6 | 7.5 | 15 | 44.1 | 7 |
| Difficulty in using link/web link to lesson websites. | 15 | 14.0 | 9 | 68 | 36.0 | 3 | 18 | 52.9 | 4 |
| Insufficient knowledge and skills as for using computer. | 13 | 12.1 | 10 | 54 | 28.6 | 7.5 | 24 | 70.6 | 1.5 |
| Lack of technical understanding by searching for the latest information. | 20 | 18.7 | 8 | 42 | 22.2 | 9 | 16 | 47.1 | 5.5 |
| Lack of computer unit during the submission of work. | 25 | 23.4 | 5 | 33 | 17.5 | 10 | 9 | 26.5 | 8.5 |

**Challenges Encountered by the Respondents in the Use of Google Classroom in the Graduate Education When they were classified according to civil status**

Table 6 shows the data which revealed that regardless of the civil status of the respondents they all considered lack of high-speed internet as their top most challenge in the use of google classroom in graduate studies while the single were least challenged on having insufficient knowledge and skills for using computer but the married and widow/widower were least challenged by lack of computer unit.

**Table 6.** Challenges Encountered by the Respondents in the use of Google Classroom in the Graduate Education When they were according to civil status

| Items | Single | | | Married | | | Widow/widower | | |
|---|---|---|---|---|---|---|---|---|---|
| | *f* | % | rank | *f* | % | rank | *f* | % | rank |
| Lack of high speed internet. | 83 | 64.8 | 1 | 142 | 71.4 | 1 | 2 | 66.7 | 3 |
| Availability of smart phone to most students. | 77 | 60.2 | 2 | 111 | 55.8 | 2 | 2 | 66.7 | 3 |
| Lack of extra money to pay for internet café if no available unit in the library. | 51 | 39.8 | 3 | 53 | 26.6 | 7 | 2 | 66.7 | 3 |
| Lack of skills in the web, Google Classroom, and search engine. | 34 | 26.6 | 6 | 58 | 29.1 | 5 | 2 | 66.7 | 3 |
| Internet connection is not available in "college mode". | 37 | 28.9 | 4 | 52 | 26.1 | 8 | 1 | 33.3 | 8 |
| It takes more time to learn to use appropriately. | 35 | 27.3 | 5 | 55 | 27.6 | 6 | 2 | 66.7 | 3 |
| Difficulty in using link/web link on lesson websites. | 29 | 22.7 | 8 | 71 | 35.7 | 3.5 | 1 | 33.3 | 8 |
| Insufficient knowledge and skills in using computer. | 19 | 14.8 | 10 | 71 | 35.7 | 3.5 | 1 | 33.3 | 8 |

| Items | f | % | rank | f | % | rank | f | % | rank | f | % | rank |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lack of technical understanding in searching for the latest information. | 27 | 21.1 | 9 | 50 | 25.1 | 9 | 1 | 33.3 | 8 | | | |
| Lack of computer unit during the submission of work. | 30 | 23.4 | 7 | 36 | 18.1 | 10 | 1 | 33.3 | 8 | | | |

**Challenges Encountered by the Respondents in the Use of Google Classroom in the Graduate Education When They Classified were according to course**

Data in table 7 revealed that all the respondents regardless of their course considered lack of high speed internet as their top most challenge in the use of google classroom in Graduate Education except for those enrolled in the Ph.D. program where availability of smart phone to most students as their most challenging instance. On the other hand, the DM and MPA students considered difficulty in using link/web on lesson website; lack of technical understanding in searching for the latest information for the MATM and MPA students and insufficient knowledge and skills in using computer; lack of computer units for MEd and EdD students and lack of extra money to pay of internet café when not available in the library. This means that the graduate students were prepared as to technical requirement and gadgets necessary in the use of google classroom for graduate education.

**Table 7.** Challenges Encountered by the Respondents in the use of Google Classroom in the Graduate Education When they were classified according to course

| Items | DM | | | MATM | | | MBA | | | MED | | | MPA | | | EDD | | | Ph.D. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | f | % | rank | f | % | rank | f | % | rank | f | % | rank | f | % | rank | f | % | rank | f | % | rank |
| Lack of high speed internet. | 10 | 66.7 | 1 | 9 | 81.8 | 1 | 19 | 79.2 | 1 | 13 | 72.4 | 1 | 25 | 52.1 | 1 | 18 | 81.8 | 1 | 7 | 38.9 | 3.5 |
| Availability of smart phone to most students. | 9 | 60.0 | 2 | 4 | 36.4 | 4 | 15 | 62.5 | 2 | 11 | 59.4 | 2 | 17 | 35.4 | 2 | 17 | 77.3 | 2 | 14 | 77.8 | 1 |
| Lack of extra money to pay for internet café if no available unit in the library. | 8 | 53.3 | 3.5 | 5 | 45.5 | 3 | 11 | 45.8 | 3 | 50 | 26.0 | 5 | 13 | 27.1 | 5 | 16 | 72.7 | 3 | 3 | 16.7 | 10 |
| Lack of skills in the web, Google Classroom, and search engine. | 7 | 46.7 | 5 | 2 | 18.2 | 7.5 | 4 | 16.7 | 7 | 44 | 22.9 | 7.5 | 15 | 31.3 | 4 | 15 | 68.2 | 4 | 7 | 38.9 | 3.5 |
| Internet connection is not available in "college mode". | 8 | 53.3 | 3.5 | 6 | 54.5 | 2 | 4 | 16.7 | 7 | 42 | 21.9 | 9 | 16 | 33.3 | 3 | 10 | 45.5 | 8 | 4 | 22.2 | 8 |
| It takes more time to learn to use appropriately. | 4 | 26.7 | 6.5 | 3 | 27.3 | 5.5 | 6 | 25.0 | 4.5 | 47 | 24.5 | 6 | 12 | 25.0 | 6 | 14 | 63.6 | 5 | 6 | 33.3 | 5.5 |
| Difficulty in using link/web link on lesson websites. | 2 | 13.3 | 10 | 2 | 18.2 | 7.5 | 3 | 12.5 | 9.5 | 68 | 35.4 | 3 | 9 | 18.8 | 9.5 | 11 | 50.0 | 6 | 6 | 33.3 | 5.5 |
| Insufficient knowledge and skills in using computer. | 4 | 26.7 | 6.5 | 1 | 9.1 | 9.5 | 3 | 12.5 | 9.5 | 56 | 29.2 | 4 | 9 | 18.8 | 9.5 | 10 | 45.5 | 8 | 8 | 44.4 | 2 |
| Lack of technical understanding in searching for the latest information. | 5 | 33.3 | 8.5 | 1 | 9.1 | 9.5 | 4 | 16.7 | 7 | 44 | 22.9 | 7.5 | 10 | 20.8 | 7.5 | 10 | 45.5 | 8 | 4 | 22.2 | 8 |
| Lack of computer unit during the submission of work. | 5 | 33.3 | 8.5 | 3 | 27.3 | 5.5 | 6 | 25.0 | 4.5 | 31 | 16.1 | 10 | 10 | 20.8 | 7.5 | 8 | 36.4 | 10 | 4 | 22.2 | 8 |

**Challenges Encountered by the Respondents in the Use of Google Classroom in the Graduate Education When they were classified according to type of program**

Table 8 shows the data which revealed that the masteral students were mostly challenged in the use of google classroom because of lack of high-speed internet while for the doctoral students because of availability of smart phones to most students but they were similar in considering lack of computer units as their least challenge in the use of google classroom in the graduate education. This means that the graduate students were greatly challenged by the lack of high-speed internet and availability of smart phone to most students in the use of google classroom in the graduate school.

**Table 8.** Challenges Encountered by the Respondents in the use of Google Classroom in the Graduate Education When they were classified according to type of program

| Items | Masteral | | | Doctoral | | |
|---|---|---|---|---|---|---|
| | *f* | % | rank | *f* | % | rank |
| Lack of high-speed internet. | 192 | 69.8 | 1 | 35 | 63.6 | 2 |
| Availability of smart phone to most students. | 150 | 54.5 | 2 | 40 | 72.7 | 1 |
| Lack of extra money to pay for internet café if no available unit in the library. | 79 | 28.7 | 4 | 27 | 49.1 | 4 |
| Lack of skills in the web, Google Classroom, and search engine. | 65 | 23.6 | 8 | 29 | 52.7 | 3 |
| Internet connection is not available in "college mode". | 68 | 24.7 | 6.5 | 22 | 40.0 | 6.5 |
| It takes more time to learn to use appropriately. | 68 | 24.7 | 6.5 | 24 | 43.6 | 5 |
| Difficulty in using link/web link on lesson websites. | 82 | 29.8 | 3 | 19 | 34.5 | 8.5 |
| Insufficient knowledge and skills in using computer. | 69 | 25.1 | 5 | 22 | 40.0 | 6.5 |
| Lack of technical understanding in searching for the latest information. | 59 | 21.5 | 9 | 19 | 34.5 | 8.5 |
| Lack of computer unit during the submission of work. | 50 | 18.2 | 10 | 17 | 30.9 | 10 |

**Challenges Encountered by the Respondents in the Use of Google Classroom in the Graduate Education When they were Classified according to status of employment**

When classified according to status of employment, table 9 shows, that both the permanent and non-permanent respondents considered lack of high-speed internet and availability of smartphones to most students as their top challenges while least challenged on the lack of computer units of these with permanent position and insufficient knowledge and skills in using computer for the non-permanent. This shows that the graduate school students are really challenged by lack of high-speed internet and most students cannot have the appropriate gadget as they use the google classroom.

**Table 9.** Challenges Encountered by the Respondents in the use of Google Classroom in the Graduate Education When they were classified according to status of employment

| Items | PERMANENT | | | NON-PERMANENT | | |
|---|---|---|---|---|---|---|
| | *f* | % | rank | *f* | % | rank |
| Lack of high-speed internet. | 200 | 67.8 | 1 | 31 | 88.6 | 1 |
| Availability of smart phone to most students. | 165 | 55.9 | 2 | 27 | 77.1 | 2 |
| Lack of extra money to pay for internet café if internet is not available in the library. | 86 | 29.2 | 5 | 23 | 65.7 | 3 |
| Lack of skills in the web, Google Classroom, and search engine. | 83 | 28.1 | 6 | 12 | 34.3 | 6.5 |
| Internet connection is not available in "college mode". | 76 | 25.8 | 8 | 18 | 51.4 | 4 |
| It takes more time to learn to use appropriately. | 81 | 27.5 | 7 | 12 | 34.3 | 6.5 |
| Difficulty in using link/web link to lesson websites. | 96 | 32.5 | 3 | 7 | 20.0 | 9 |
| Insufficient knowledge and skills in using computer. | 87 | 29.5 | 4 | 5 | 14.3 | 10 |
| Lack of technical understanding in searching for the latest information. | 70 | 23.7 | 9 | 9 | 25.7 | 8 |
| Lack of computer unit during the submission of work. | 55 | 18.6 | 10 | 14 | 40.0 | 5 |

**Significant Differences in the Level of Effectiveness Of Google Classroom As Assessed By The Respondents When They Were Classified According To Age, Civil Status, and Course**

Table 10 shows the no significant differences in the assessment of the respondents on the effectiveness of google classroom in graduate education when they were classified according to age. This means that all the respondents considered similarly that the google classroom was very effective as they found the use of google classroom to be successful as students have very good academic performance in the flexible learning modality regardless as to what category of age they belong. On the other hand,

significant differences in the assessment of the respondents on the effectiveness of google classroom when they were classified according to civil status with p value = .428 and course, p=.014 were noted. This means that the respondents had varying assessment of the level of effectiveness of google classroom as used in the graduate school as for the civil status widowed/widower had the highest mean of assessment and single had the lowest meanwhile for the course, MATM students had the highest mean assessment while the MBA had the lowest mean although all described the google classroom effectiveness on the very high level.

**Table 10.** Significant Differences in the Level of Effectiveness of Google Classroom as Assessed by The Respondents When They Were Classified According to Age, Civil Status and Course

| Variables | N | Mean Rank | H-test | df | p-value | Remarks |
|---|---|---|---|---|---|---|
| Age | | | | | | |
| below 30 | 107 | 218.22 | 1.695 | 2 | .428 | Not Significant |
| 30-45 | 189 | 234.76 | | | | |
| above 45 | 34 | 236.75 | | | | |
| Civil Status | | | | | | |
| Single | 128 | 213.06 | 7.244 | 2 | .027 | Significant |
| Married | 199 | 239.86 | | | | |
| Widow/widower | 3 | 315.42 | | | | |
| Course | | | | | | |
| DM | 15 | 233.41 | 16.038 | 6 | .014 | Significant |
| MATM | 11 | 307.59 | | | | |
| MBA | 24 | 222.81 | | | | |
| MED | 192 | 207.50 | | | | |
| MPA | 48 | 258.82 | | | | |
| EDD | 22 | 255.87 | | | | |
| PH. D | 18 | 265.42 | | | | |

**Significant Differences in the Level of Effectiveness of Google Classroom as Assessed by The Respondents When They Were Classified According to type of program, and status of employment**

As reflected in table 11, there were significant differences in the assessment of the respondents on the effectiveness of google classroom in graduate education when they were classified by type of program as the doctoral students had higher mean assessment compared with those in the masteral program. However, when the respondents were classified according to their status of employment, no significant differences on the respondents' assessment in the level of effectiveness of google classroom were noted which shows that the permanent and non-permanent positioned respondents have similar assessment that considered the level of effectiveness of the google classroom to be very high.

**Table 11.** Significant Differences in the Level of Effectiveness of Google Classroom as Assessed by The Respondents When They Were Classified According To type of program, status of employment

| Variables | N | Mean Rank | Sum of Ranks | U-test | p-value | Remarks |
|---|---|---|---|---|---|---|
| Type of Program | | | | | | |
| Masteral | 275 | 221.99 | 75254.50 | 17624.500 | .038 | Significant |
| Doctoral | 55 | 250.89 | 29856.50 | | | |
| Status of Employment | | | | | | |
| PERMANENT | 295 | 166.15 | 49013.00 | 4972.000 | .718 | Not Significant |
| NON-PERMANENT | 35 | 160.06 | 5602.00 | | | |

**Significant Differences in The Challenges Encountered by The Respondents in The Use of Google Classroom in The Graduate Education When They Were Classified According to Age, Civil Status, Course, Type of Program and Status of Employment**

As shown in table 12, there were significant differences in the challenges encountered by the respondents in the use of google classroom in the graduate school when the respondents were classified according to their age, course and type of program. This means that varying challenges were encountered by the respondents depending on their age, course and type of program. On the other hand,

no significant differences in the challenges encountered by the respondents when they were classified according to civil status and status of employment. This means that similar challenges were encountered by the respondents regardless whether they were single, married or widow/widower and whether they were in permanent or non-permanent position.

**Table 12.** Significant Differences in The Challenges Encountered by The Respondents in The Use of Google Classroom in The Graduate Education When They Were Classified According to Age, Civil Status, Course, Type of Program and Status of Employment

| Variables | Chi-square value | df | p-value | Remarks |
|---|---|---|---|---|
| Age | 21.95 | 2 | .000 | Significant |
| Civil Status | 1.346 | 2 | .510 | Not Significant |
| Course | 26.456 | 6 | .000 | Significant |
| Type of Program | 20.121 | 1 | .000 | Significant |
| Status of Employment | 0.461 | 2 | .794 | Not Significant |

**Significant Relationship Between Effectiveness and Challenges in the Use of Google Classroom**

Table 13 shows a no significant relationship between effectiveness and challenges encountered in the use of google classroom which implies that the challenges have not impacted the effectiveness of such platform in the flexible learning modality. In the presence of these challenges, still the use of google classroom was on its very high level of effectiveness.

**Table 13.** Significant Relationship Between Effectiveness and Challenges in the Use of Google Classroom

| Spearman's rho Correlations | | CHALLENGES | Remarks |
|---|---|---|---|
| EFFECTIVENESS | Correlation Coefficient | -.018 | |
| | Sig. (2-tailed) | .739 | Not Significant |
| | N | 330 | |

## 4. Conclusion

Based on the findings of the study, the following conclusions were drawn.

1. For Graduate School students, the use of google classroom in the Graduate Education is very effective as they have very good academic performance in the flexible learning modality.
2. Lack of high-speed internet makes the use of google classroom in the Graduate Education challenging for the Graduate School in the flexible learning modality.
3. Graduate Students at Guimaras State University are technically prepared for the use of google classroom in their graduate studies.
4. The use of google classroom in the Graduate Education at Guimaras State University in Guimaras island poses challenges yet found to be very effective in the flexible learning modality.

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