Modes of Learning and Performance Among Graduates During a Pandemic in a State University in Romblon, Philippines

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Abstract
Quality education is a key commitment of Romblon State University. By providing a performance assessment of students exposed to modes of learning during a pandemic, this study aimed to describe their performance in different learning modalities during COVID-19. This study focused on all 2021 graduates from the College of Education in determining their modes of learning, municipal base, and majors pursued before and during COVID-19 and how these hypothetically affected their performances as indicated by their corresponding Grade Weighted Averages (GWA). Out of 68 graduates, 23 reside in Odiongan, while 29 pursued Music, Arts, Physical Education, and Health (MAPEH) Major. This study found that there was a significant difference in GWA of graduates in different modes of learning (F=19.81, p=0.00), municipal base (F=14.93, p=0.00), and major pursued (F=7.03, p=0.03). The highest GWA was manifested by graduates engaged in online mode (1.65) but not necessarily better off than in face-to-face and mixed modes (1.84). Graduates from 6 out of 12 municipalities performed the least during mixed mode throughout the height of COVID-19. Moreover, graduates with majors in Biological Science and MAPEH, performed the least during face-to-face mode but performed best during the online mode, while graduates with majors in English and Technology and Livelihood Education (TLE) performed the least during mixed mode but performed best during online mode. Considering these key findings, university administration should undertake proactive measures to ensure its technology and dynamic interactions or feedback can reach impeded students from performing in a mixed mode of learning.

Keywords: COVID-19, Learning Modality, Grade Average

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Introduction

The coronavirus disease 2019 (COVID-19) pandemic has triggered sudden and unexpected crises not only in the health, economy, and tourism, but also in the education sector, to a great extent. The virus, which first emerged in December 2019, became a pandemic leading to school closures and eventually migration to remote learning by all levels of educational institutions. Countries have had to suspend face-to-face education to reduce viral transmission and have tried to provide distance education opportunities to ensure continuity in education (Can, 2020). Thus, the traditional delivery of instruction in education has transformed, and in turn, learning spaces were re-organized.

Although generally, the education system seems unprepared and may transpire unpredicted consequences during and beyond the crisis, it produces different measures to immediately sustain education efforts with utmost consideration to provide education as a fundamental human right (Bozkurt & Sharma, 2020). On a global scale, UNICEF (2020) reported that more than 1.5 billion learners of all ages are affected because of school and university closures. As reported by the most recent comprehensive study including 31 countries, a fair degree of educational continuity has been achieved in most countries through the decades of experience with distance education, use of a wide range of technologies, tools and social support from the teachers, students, parents and administrators, while the rest were challenged not so much by the technology but by the lack of planning, coordination, communication and management which placed a heavy burden on students, parents and teachers (Rotas and Cahapay, 2021 and UNESCO, 2020).

In the Philippines, not every student can provide and adapt to the rapid advances in technology in today's digital age (Alvarez, 2020), especially for developing countries in which education is plagued by problems even before the pandemic. A study by Rotas and Cahapay (2021) and Santos (2020) revealed that despite the efforts to make education accessible for all, there is still a digital divide among Filipino students, and other difficulties are still confronting Filipino university students in the practice of remote learning, such as online and blended modalities (Rotas and Cahapay, 2021 and Santos, 2020).

Thus, this study aimed to describe the performance in different learning modalities of graduates during COVID-19.

Methodology

This section presents the methods used in this study. It includes the research design, study group, data gathering, and analysis, which are discussed as follows:

Research Design

This quantitative study used a correlational approach, which aims to investigate relationships between two or more variables without the study investigators controlling or manipulating any of them (Mohajan, 2020). In this context, the performance in different learning modalities of graduates amid COVID-19 was examined.

Study Group

This study involved a group of purposively and conveniently selected 68 graduates of the RSU Main for the academic year 2020 to 2021. The participants were selected based on the availability of their transcript of records. The transcripts were coded and only seen by the study investigators.

Furthermore, it should be noted that this sample does not represent the entire population, but it is considered acceptable to demonstrate the purpose of this study (Mohajan, 2020). The study investigators do not intend to generalize the results but to quantitatively describe the performance in different learning modalities in the wake of COVID-19.

Data Gathering and Analysis

The risk of contamination of COVID-19 was considered while conducting the study; the entire data collection process was carried out virtually to avoid the risk of transmission.

A correlational approach was employed in this study. The operational definitions of the variables used for this study are as follows:

Performance was based on the Grade Weighted Average (GWA) of the student upon graduation; and

Mode of learning was assessed by the most dominant mode of learning in one's life as graduating student, such as face-to-face, online, or mixed mode of learning.

Analytical works on descriptive statistics (frequency, percentage, mean, and variance) and inferential statistics (analysis of variance test with a significance level of 0.05) on the study variables, performance, and mode of learning were processed using spreadsheets (Excel version 2021).

Results

This study was guided by its purpose to describe the performance in different learning modalities of graduates during COVID-19. This section presents the results as follows:

General Profile of the Graduates

Of the 68 graduates from the College of Education for the academic year 2020 to 2021, the majority reside in Odiongan (23, 33.8%), which is the capital municipality, followed by Alcantara (13; 19.1%) and Ferrol (13; 19.1%), which are the adjacent municipalities of Odiongan, and pursued the Music, Arts, Physical Education, and Health (MAPEH) Major (29, 42.6%), as shown in Table 1.

Characteristics	Frequency (n=68)	Percentage
Municipal Base		
Alcantara	13	19.1
Calatrava	1	1.5
Concepcion	1	1.5
Corcuera	3	4.4
Ferrol	6	8.8
Looc	13	19.1
Odiongan	23	33.8
Romblon	1	1.5
San Agustin	2	2.9
San Jose	1	1.5
Santa Fe	1	1.5
Santa Maria	3	4.4
Major Pursued		
Biological Science	1	1.5
English	16	23.5
MAPEH	29	42.6
TLE	22	32.4

Table 1: Profile of the Academic Year 2020 to 2021 Graduates from
the College of Education, RSU Main

Grade Average and Mode of Learning

The findings (as shown in Table 2) show a statistically significant difference ($F=19.81$, $p=0.00$) in performance by mode of learning of the graduates from the College of Education for the academic year 2020 to 2021, which indicates that the mode of learning affect the overall performance of the graduates. The highest GWA was manifested by graduates engaged in online mode (1.65) but not necessarily better off than in face-to-face mode (1.84) and mixed mode (1.84), indicating that online learners performed as well as those who are exposed to face-to-face and mixed modes.

Mode of Learning	Grade Average	Test Result
Face-to-face	1.84	Anova Test = 19.81
Mixed	1.84	Significance =
Online	1.65	0.00 **(significant p<0.05)**

Table 2: Grade Weighted Average by Mode of Learning of the Academic Year
2020 to 2021 Graduates from the College of Education, RSU Main

Other Factors Related to Grade Average

Exploring other factors that are related to performance (as shown in Table 3), such as municipal base ($F=19.81$, $p=0.00$) and major pursued ($F=7.03$, $p=0.03$) of the graduates from the College of Education for the academic year 2020 to 2021, reveals statistically significant impact to grade average, which implies that the performance of the graduates was different respective to their municipal base and major pursued.

Graduates from 6 out of 12 (50%) municipalities performed the least during mixed mode throughout the height of COVID-19, especially those reside in Concepcion, Ferrol, Looc, Odiongan, and San Jose. Moreover, graduates with majors in Biological Science and MAPEH performed the least during face-to-face mode but performed best during the online mode, while graduates with majors in English and Technology and Livelihood Education (TLE) performed the least during mixed mode but performed best during online mode.

Characteristics	Means			ANOVA Test Result
	Face-to-face	Mixed	Online	
Municipal Base (Face-to-face: min=2.03; max=1.59) (Mixed: min=1.91; max=1.62) (Online: min=1.79; max=1.54)				
Alcantara	1.75	1.81	1.63	
Calatrava	1.60	1.62	1.54	
Concepcion	1.8	1.89	1.62	
Corcuera	1.61	1.78	1.52	
Ferrol	1.77	1.87	1.79	
Looc	1.85	1.84	1.67	F = 14.93, p = 0.00
Odiongan	1.95	1.91	1.67	
Romblon	1.82	1.74	1.59	
San Agustin	2.03	1.88	1.55	
San Jose	1.85	1.79	1.62	
Santa Fe	1.81	1.63	1.71	
Santa Maria	1.59	1.66	1.58	
Major Pursued (Face-to-face: min=1.94; max=1.71) (Mixed: min=1.94; max=1.78) (Online: min=1.75; max=1.33)				
Biological Science	1.94	1.93	1.33	
English	1.71	1.78	1.48	F = 7.03, p = 0.03
MAPEH	1.87	1.80	1.75	
TLE	1.87	1.94	1.66	

Table 3: Other Factors Related to the Grade Average of the Academic Year 2020 to 2021 Graduates from the College of Education, RSU Main

Discussion

It has been recognized that the transition to a new educational system for most universities was not properly organized, thus, this study aimed to describe the performance in different learning modalities of university graduates during COVID-19. Quality education is a key commitment of RSU. The COVID-19, which is a respiratory infectious disease, emerged and became a pandemic as the university geared towards transitioning into a resilient, green, and smart university. The graduating students in the academic year 2020 to 2021 experienced different modes of learning, such as face-to-face mode during their second year (the academic year 2018 to 2019), mixed mode, where the height of the pandemic took place and caused a sudden shift from face-to-face mode to online mode due to quarantine protocols (the academic year 2019 to 2020), and online mode (the academic year 2020 to 2021).

This study found that the overall performance of graduates during the online mode of learning has varied statistically and significantly from face-to-face and mixed modes of learning indicating potential grading leniency. In systematic reviews that compared various dimensions of face-to-face and the online experiences of students, Fahy (2005) found that online students engage less tension-release behaviors by spending most of the time on task-related problems, less on supportive socio-economic activities, and almost none on negative socio-emotional problems, Moore and Kearsley (2011) also revealed that distance learners have a greater likelihood of drop-out from the course if they receive little or no assistance in their studies; if they receive little or no interaction with the tutor and other students; if they receive little or no feedback about the progress of their studies, and Bautista and Quiambao (2017) similarly presented that a discussion forum was relied upon by the students among online learners, and consequently pointed out that better interaction and poor internet connection were given by the majority of those who prefer the face-to-face learning environment in the Philippines (Bautista and Quiambao, 2017; Fahy, 2005; and Moore and Kearsley, 1996).

Moreover, in systematic reviews that compared learner satisfaction and learning outcomes in both online and face-to-face learning environments, Johnson et al. (2000) revealed that students in the face-to-face learning environment held slightly more positive perceptions about the instructor and course quality, Strickland and Butler (2005) also described that students' satisfaction with the online course was comparable to that of the traditional face-to-face class, and Bautista and Quiambao (2017) similarly found that online, mixed, and face-to-face learners performed at the same level with convenience as vital in the preference of students in mixed mode of learning (Bautista and Quiambao, 2017; Johnson et al., 2000; and Strickland and Butler, 2005).

This study also found that the performances of the graduates in different learning modalities were different statistically and significantly in terms of their municipal base and major pursued. In a study that described the difficulties in remote learning of university students in the Philippines in the wake of the COVID-19 crisis, Rotas and Cahapay (2021) emphasized recurring complications, such as unstable internet connectivity; inadequate learning resources; electric power interruptions; vague learning contents; overloaded lesson activities; limited teacher scaffolds; poor peer communication; conflict with home responsibilities; poor learning environment; financial-related problems; physical health compromises; and mental health struggles, to online and blended learning.

Consistent with previous studies by Kerres (2020); Sarwar et al. (2020); Subedi et al. (2020); and Verawardina et al. (2020), students situated in deep rural areas find it difficult to stay connected with online learning due power interruption, use e-learning content meant for on-campus learning, online library materials, or complicated e-learning operations system in Germany, Pakistan, Nepal, and India.

Conclusion

This study found that the performance of the graduates had been substantially affected by the mode of learning, which implies that even if RSU Main shifts back to mixed mode, the performance of the students need not be behind the students in the online mode. Considering these key findings, university administration should undertake proactive measures, such as rigid monitoring of the various modes of learning, adapting effective assessments for learning, creating a table of specifications for major examinations, evaluating teaching

effectiveness and interaction, conducting satisfaction surveys, etc. to ensure its technology and dynamic interactions or feedback can reach impeded students from performing in a mixed mode of learning.

This study acknowledges its limitation of being conducted with a small sample. Larger surveys should be conducted for future research to further understand the improvements or difficulties of the students across levels or courses.

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