



FACULTY CHALLENGES AND OPPORTUNITIES ON THE EMERGING DIGITAL LEARNING PLATFORMS DURING COVID-19 ERA

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ABSTRACT

This study investigates the challenges and opportunities encountered by faculty members in Guimaras State College, Philippines, during the COVID-19 pandemic, specifically in the 2020-2021 school year. The study involved 107 purposively selected faculty members. The objective of the study was to determine how the faculty adapted to the emerging digital learning platforms in response to the pandemic. The study utilized a survey questionnaire to gather data, and the results showed that the faculty members encountered various challenges in adapting to the digital platforms, such as inadequate technical skills and limited access to technology. However, the study also found that the faculty members perceived some opportunities from the shift to digital learning, such as increased flexibility and accessibility of educational resources. The study suggests that the faculty members need support and training to improve their technical skills and increase access to technology.

Keywords: COVID-19 Era, Digital learning platforms, Faculty

I. INTRODUCTION

The COVID-19 epidemic has resulted in considerable changes in the education sector, with distant learning becoming as a critical supplement to traditional classroom instruction. Over 150 million pupils worldwide were unable to attend school as of April 2020 owing to the epidemic (UNESCO, 2020). Concerns were raised in the Philippines over whether schools would open in March 2020 due to the government's emphasis on social separation. In the end, the Commission on Higher Education (CHED) decreed that all public institutions, including elementary, junior, and senior high schools, begin online sessions on August 6, 2020, rather than the typical start date in June (Capulso, 2020). While online learning can give chances for educational innovation, it also raises issues about educational inequity due to a lack of experience in preparing for distance education. The adoption of new technology for distance learning has resulted in conflicting opinions among educators. As a result, new educational standards and practices for the post-COVID-19 period are being debated. Internet access has grown critical for distance learning, but ensuring its dependability remains a difficulty. Even economically rich countries like Canada, the United States, and the United Kingdom faced with internet connectivity challenges throughout the pandemic (Jandri, 2020). Distance learning enabled by technology is also anticipated to enhance inequalities in learning continuity (Mundy & Hares, 2020).

The OECD sponsored a survey of educational officials and administrators from 98 countries about their policy responses to the pandemic in partnership with Harvard University, Save the Children, and WISE. According to the poll, many governments required students and instructors to stay home for two to four weeks or canceled school activities entirely. As of March, just four countries permitted school attendance, with other countries' policy responses being uneven. During COVID-19, the biggest problems in the education response were highlighted as the availability and management of technical infrastructure, as well as balancing digital and physical activities for students. Despite these difficulties, the use of new technologies and novel instruments for instruction, as well as student autonomy, were regarded as good characteristics of distant education (Achleicher, 2020).

Digital technology has also played an important role in distant education, with social media platforms such as Facebook being used for scientific breakthroughs as well as social interactions between lecturers and students. However, there has been little research on the problems and



opportunities given by emergent digital learning platforms in the COVID-19 to the teaching and learning process specifically among the teachers in higher ed. The purpose of this study is to determine whether there are substantial disparities in faculty challenges and opportunities based on various characteristics among college professors in Guimaras State College, Philippines.

1.1 OBJECTIVES OF THE STUDY

This study aimed to determine the faculty challenges and opportunities on the emerging digital learning platforms during the COVID-19 Era in Guimaras State College, Mclain, Buenavista, Guimaras, Philippines on School Year 2020-2021.

Specifically, this study sought to answer the following questions:

1. What are the challenges on the emerging digital platforms as perceived by the respondents when taken as a whole and when classified according to age and sex?
2. What are the opportunities on the emerging digital platforms as perceived by the respondents when taken as a whole and when classified according to age and sex?
3. Are there significant differences on the opportunities on the emerging digital platforms as perceived by the respondents when classified according to age and sex?
4. Are there significant differences on the challenges on the emerging digital platforms as perceived by the respondents when classified according to age and sex?
5. Is there significant relationship between the faculty challenges and opportunities on the emerging digital platforms during the COVID-19 Era?

1.2 HYPOTHESIS

Based on the problems stated above, this hypothesis was formulated:

There are no significant differences on the challenges on the emerging digital platforms perceived by the respondents when classified according to age and sex.

There are no significant differences on the opportunities on the emerging digital platforms perceived by the respondents when classified according to age and sex.

There is no significant relationship between the faculty challenges and opportunities on the emerging digital platforms during the COVID-19 Era.

1.3 CONCEPTUAL FRAMEWORK

The independent variables in this study are the profiles of the respondents, the dependent variable are the challenges and opportunities as perceived by the respondents in Guimaras State College, Mclain, Buenavista, Guimaras, Philippines on School Year 2020-2021.

Schematic Diagram

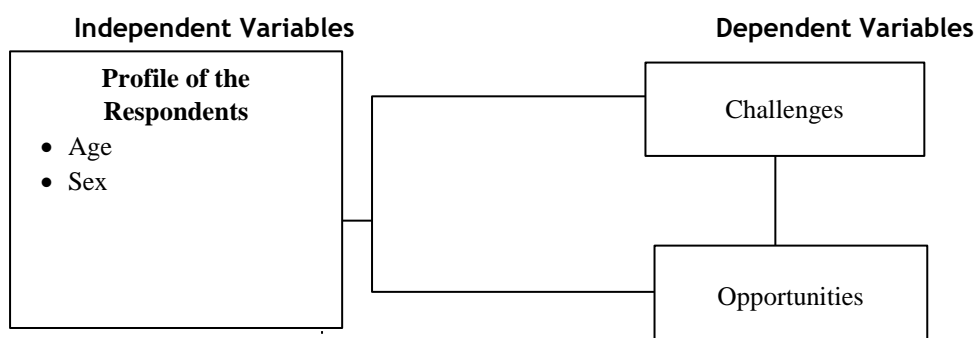


Figure 1. A schematic diagram shows the connection between the variables.

II. LITERATURE REVIEW

The spread of a microscopic virus has produced an unexpected global disturbance. As of April 27th, 2020, school closures had affected around 1.725 billion students globally, with 186 nations enacting countrywide closures and eight countries implementing local closures. The school system in the



Philippines was caught aback when public exams and other competitive assessments had to be postponed or cancelled owing to the pandemic. The ambiguity about the virus's trajectory has caused children and school officials to be confused about the upcoming school year. Furthermore, the extended absence from normal school has made predicting the impact on children challenging (Ancheta & Ancheta, 2020).

Numerous schools throughout the world have been forced to close because to students' and teachers' susceptibility to COVID-19. On April 6, 2020, UNESCO (2020) announced that 91.3% of registered learners in 188 countries, totaling 1,576,021,818 affected individuals, had been affected at all levels of education. In Hong Kong, for example, 1,302 schools were closed, resulting in one million kids staying at home and around 50,600 teachers trying to use technology to educate their students.

The COVID-19 pandemic has had a substantial impact on higher education institutions in the Philippines, with 4,195 confirmed cases reported as of April 10, 2020, according to the Department of Health (DOH) (2020) online tracker report. As a result, the country soon shifted to online education as an alternative. Some teachers recorded and uploaded their classes for pupils using online platforms such as Google Classrooms and WebQuest. However, many teachers were unprepared for online education. The Department of Education (DepEd) (2020) had to cease online instruction after only three days of deploying alternate delivery modalities due to an increase in the number of learners and teachers protesting against online learning due to a variety of issues. In actuality, many fundamental education institutions in the Philippines were ill-equipped to handle the shift to online learning.

Ruth (2018) investigated the challenges and opportunities of online learning from the perspective of faculty members. The study found that while faculty members appreciated the flexibility and accessibility of online learning, they struggled with issues such as technical difficulties and a lack of student engagement. Another study by Nambiar (2020) examined the impact of the COVID-19 pandemic on faculty perceptions of online teaching. The study found that faculty members who were more comfortable with technology and had prior experience with online teaching were better able to adapt to the new digital learning environment.

One study by Adedoyin and Soykan (2020) explored the challenges and opportunities for faculty members when teaching online during the COVID-19 pandemic. The study found that faculty members faced challenges related to technology, engagement, and assessment. Another study by Oducado (2020) focused on the faculty's perceptions of digital learning platforms. The study found that faculty members who had more experience with online teaching were more confident in their abilities to use digital platforms.

In addition to challenges, faculty members also had opportunities to innovate and improve their teaching practices during the COVID-19 era. For example, the study by Sunita et al. (2020) found that faculty members had the opportunity to experiment with new digital tools and teaching methods. This experimentation allowed them to improve their teaching practices and engage students more effectively.

Despite the opportunities for innovation, the rapid shift to digital learning platforms created a significant workload for faculty members. A study by Adedoyin and Soykan (2020) found that faculty members were required to adapt their teaching materials and methods to the digital platform quickly. This adaptation required significant effort and time investment on the part of faculty members.

Similarly, a study by Almonacid-Fierro and colleagues (2021) explored the impact of the COVID-19 pandemic on faculty members' teaching practices and found that faculty members who had experience with online teaching were more likely to incorporate technology into their teaching practices. However, the study also found that faculty members who were less comfortable with technology faced challenges such as difficulty in using the platforms and inadequate technical support.

In a study by Francom, Lee and Pinkney (2021), the authors surveyed faculty members from a variety of institutions to understand the challenges they faced during the transition to remote

learning. The study found that faculty members faced challenges such as a lack of technical support, difficulty in maintaining student engagement, and a need for additional training on digital learning platforms. However, the study also identified opportunities for faculty members to improve their teaching practices, such as developing new teaching strategies and incorporating more interactive content into their courses.

In a study conducted by Caputo, Carpentieri and Patriarca (2020) found that the use of digital learning platforms has provided opportunities for faculty to experiment with new pedagogies and teaching methods. However, it also highlights several challenges faced by faculty, including the need for technical support, the difficulty in engaging students, and the lack of interaction and feedback in online environments. The authors emphasize the importance of providing ongoing support to faculty to help them adapt to digital learning platforms and leverage their full potential. Finally, a study by Bozkurt and colleagues (2020) examined the impact of the COVID-19 pandemic on the future of higher education. The study found that the pandemic had accelerated the adoption of digital learning platforms, leading to the emergence of new models of higher education that prioritize digital learning. The study also identified several challenges that needed to be addressed, such as the need for faculty members to receive more training on digital learning platforms and the need for institutions to invest in technology infrastructure.

III. METHODOLOGY

3.1 Research Design

The study used a quantitative research design. Specifically, it used the survey method to determine the faculty challenges and opportunities on the emerging digital learning platforms during COVID-19 Era in Guimaras State College, Mclain, Buenavista, Guimaras, Philippines on School Year 2020-2021. The descriptive statistics used in the study were the frequency count, percentage, and rank. The inferential statistics used was the Chi-Square Test and Spearman Rho.

3.2 Respondents

The respondents of study were the purposively selected 107 faculty of Guimaras State College, Mclain, Buenavista, Guimaras, Philippines on School Year 2020-2021.

The participants were chosen through purposive sampling. This sampling technique refers to a type of non-probability sampling where the target participants meet specific practical criteria, such as easy accessibility, availability at the given time, or the willingness to participate are included for the study (Etikan et al., 2016). The selection criteria for the participants of this quantitative study were the following: (a) currently teaching in the chosen school, (b) willing participants of the study, and (c) available during the conduct of the study.

Table 1 presents the distribution of the respondents according to the College Department that they belong to. The majority of the respondents were under the College of Arts and Sciences (39.3%) and followed by the College of Business and Management (17.8%). The College of Tertiary Education got 11.2% and the College of Engineering and Industrial Technology got 10.3%. The College of Science and Technology got 9.35% while the College of Criminal Justice Education got 8.41%. Lastly, the College of Agricultural Sciences got the lowest percentage at 3.74.

Table 1. Distribution of the respondents by college department

College Department	N	%
College of Agricultural Sciences	4	3.74
College of Science and Technology	10	9.35
College of Business and Management	19	17.8
College of Criminal Justice Education	9	8.41
College of Tertiary Education	12	11.2
College of Arts and Sciences	42	39.3
College of Engineering and Industrial Technology	11	10.3
ENTIRE GROUP	107	100



3.3 Data Gathering Instrument

A 30-item survey-questionnaire on the faculty challenges and opportunities on the emerging digital learning platforms during COVID-19 Era was made. It was divided into three parts. The first part was to gather the profile of the respondents and the second part was used to determine the challenges that the faculty face on the emerging digital learning platforms. The third part was used to gather the responses on the opportunities that the faculty perceived on the emerging digital learning platforms. The respondents responded “yes” if they agree with the statement and “no” if they disagree.

3.4 Data Analysis Procedure

In the interpretation of data, the statistical tools that were used were the frequency count, percentage, rank, and Chi-Square Test and Spearman Rho.

Frequency Count. It was used to determine the number of responses per item in the questionnaire.

Percentage. It was used in comparing the number of respondents per profile category.

Rank. It was used to determine the highest ranked and lowest ranked challenges and opportunities according to the responses of the respondents.

Chi-square Test. It was used to determine the significant differences in the faculty challenges and opportunities on the emerging digital platforms. Respondents were classified according to age and sex. The level of significance was set at .05 alpha.

Spearman Rho. It was used to determine the significant relationship between the challenges and opportunities on the emerging digital platforms.

IV. RESULTS

Table 2 presents the challenges perceived by the respondents when it comes to using emerging digital platforms in teaching. The total number of respondents is 107, and they identified several challenges that they encountered.

The top five challenges perceived by the respondents are adapting to emerging digital platforms for remote teaching, technical difficulties such as unstable internet connections or incompatible software, lack of face-to-face interaction with students, maintaining student engagement and participation, and increased workload. All of these challenges were ranked as 3.5 and had a percentage of 100.00. This suggests that these challenges are commonly experienced by the respondents.

The next two challenges identified were designing and delivering effective online content and providing feedback and assessment on student work. Both of these challenges were ranked as 7.5 and had a percentage of 98.13. The challenges of lack of access to necessary equipment and resources and time management and finding work-life balance were also ranked as 7.5 but had a slightly lower percentage of 98.13.

Other challenges that were identified by the respondents included adoption of unfamiliar or uncomfortable pedagogies, lack of support and training in using emerging digital platforms, and the need for constant innovation and adaptation to new technologies. All of these challenges were ranked as 11 and had a percentage of 96.26.

The challenges of accommodating the needs of diverse students in remote teaching environments, pressure to produce high-quality online content, and lack of human connection and social interaction were ranked 14, 13, and 15, respectively. The percentage for accommodating the needs of diverse students in remote teaching environments was 94.39, and the percentage for both pressures to produce high-quality online content and lack of human connection and social interaction were 95.33 and 92.52, respectively.

Overall, the findings from Table 2 indicate that teachers face several challenges when it comes to using emerging digital platforms in teaching. The challenges include technical difficulties, lack of face-to-face interaction, maintaining student engagement and participation, increased workload, designing and delivering effective online content, providing feedback and assessment on student

work, and the need for constant innovation and adaptation to new technologies. Teachers need to be adequately trained and supported in using digital platforms to overcome these challenges and provide effective teaching and learning experiences.

Table 2. Challenges on the emerging digital platforms as perceived by the respondents when taken as a whole

Items	f	%	Rank
adapting to emerging digital platforms for remote teaching	107	100.00	3.5
technical difficulties, such as unstable internet connections or incompatible software	107	100.00	3.5
lack of face-to-face interaction with students	107	100.00	3.5
maintaining student engagement and participation	107	100.00	3.5
increased workload	107	100.00	3.5
designing and delivering effective online content	107	100.00	3.5
lack of access to necessary equipment and resources	105	98.13	7.5
time management and finding work-life balance	105	98.13	7.5
providing feedback and assessment on student work	104	97.20	9
adoption of unfamiliar or uncomfortable pedagogies.	103	96.26	11
lack of support and training in using emerging digital platforms	103	96.26	11
need for constant innovation and adaptation to new technologies	103	96.26	11
pressure to produce high-quality online content	102	95.33	13
accommodating the needs of diverse students in remote teaching environments	101	94.39	14
lack of human connection and social interaction	99	92.52	15

Table 3 presents the challenges on the emerging digital platforms as perceived by the respondents when classified according to age, specifically the young and old respondents. The table shows the frequency, percentage, and rank of each challenge for each age group.

In terms of technical difficulties such as unstable internet connections or incompatible software, both age groups perceived this as their top challenge, with 100% of young respondents and 99.07% of old respondents indicating so. This challenge was ranked 1.5 for both groups.

For the lack of human connection and social interaction, the young respondents ranked this as their 10.5th challenge, while the old respondents ranked it as their 1.5th challenge. This suggests that older respondents value face-to-face interaction more than younger respondents.

Both age groups identified the need for support and training in using emerging digital platforms as a significant challenge, with 99.07% of young respondents and 98.13% of old respondents indicating so. This challenge was ranked 4 for both groups.

The pressure to produce high-quality online content was also identified as a significant challenge for both age groups, with 95.33% of young respondents and 98.13% of old respondents indicating so. This challenge was ranked 13 for young respondents and 4.5 for old respondents.

Interestingly, the young respondents identified adapting to emerging digital platforms for remote teaching as their top challenge, while the old respondents ranked it as their 7.5th challenge. This suggests that younger respondents may be more comfortable and familiar with digital technologies than older respondents.

Overall, the table suggests that there are some differences in the challenges perceived by young and old respondents in adapting to emerging digital platforms for remote teaching. However, both groups face similar challenges in terms of technical difficulties, the need for support and training, and producing high-quality online content.

Table 3. Challenges on the emerging digital platforms as perceived by the respondents when classified according to age.

Age	Young	Old
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	f	%	Rank	f	%	Rank
technical difficulties, such as unstable internet connections or incompatible software	107	100.00	1.5	106	99.07	1.5
lack of human connection and social interaction	103	96.26	10.5	106	99.07	1.5
lack of support and training in using emerging digital platforms	106	99.07	4	105	98.13	4.5
pressure to produce high-quality online content	102	95.33	13	105	98.13	4.5
adapting to emerging digital platforms for remote teaching	106	99.07	4	105	98.13	4.5
increased workload	99	92.52	15	105	98.13	4.5
adapting to emerging digital platforms for remote teaching	107	100.00	1.5	104	97.20	7.5
need for constant innovation and adaptation to new technologies	105	98.13	6	104	97.20	7.5
accommodating the needs of diverse students in remote teaching environments	106	99.07	4	103	96.26	10.5
providing feedback and assessment on student work	103	96.26	10.5	103	96.26	10.5
maintaining student engagement and participation	104	97.20	7.5	103	96.26	10.5
designing and delivering effective online content	103	96.26	10.5	103	96.26	10.5
lack of face-to-face interaction with students	104	97.20	7.5	102	95.33	13.5
adoption of unfamiliar or uncomfortable pedagogies.	103	96.26	10.5	102	95.33	13.5
time management and finding work-life balance	101	94.39	14	99	92.52	15

Table 4 presents the challenges perceived by the respondents on the emerging digital platforms, classified according to sex. The table shows that the challenges faced by male and female respondents are quite similar. The top three challenges are adapting to emerging digital platforms for remote teaching, need for constant innovation and adaptation to new technologies, and increased workload. These challenges are perceived to have a significant impact on both male and female respondents, with frequency ranging from 105 to 107, and percentage ranging from 61.18% to 62.94%.

The fourth challenge, technical difficulties, such as unstable internet connections or incompatible software, is also common among both male and female respondents. However, male respondents reported slightly higher frequency and percentage of this challenge compared to female respondents, with a frequency of 104 and percentage of 61.18%, while female respondents had a frequency of 106 and percentage of 62.35%.

The next challenge is the lack of human connection and social interaction, which is perceived to have a moderate impact on both male and female respondents. This challenge had a frequency of 105 for male respondents and 105 for female respondents, with a percentage of 61.76% for both.

The pressure to produce high-quality online content is also perceived as a challenge by both male and female respondents, with a frequency ranging from 102 to 104 and a percentage ranging from 60.00% to 61.18%.



Lack of support and training in using emerging digital platforms is perceived as a challenge by both male and female respondents. However, male respondents reported a higher frequency and percentage of this challenge compared to female respondents, with a frequency of 106 and percentage of 62.35%, while female respondents had a frequency of 103 and percentage of 60.59%. Other challenges perceived by both male and female respondents include accommodating the needs of diverse students in remote teaching environments, providing feedback and assessment on student work, maintaining student engagement and participation, designing and delivering effective online content, lack of face-to-face interaction with students, adoption of unfamiliar or uncomfortable pedagogies, and time management and finding work-life balance.

In summary, the challenges perceived by male and female respondents on the emerging digital platforms are quite similar. The top challenges are adapting to emerging digital platforms for remote teaching, need for constant innovation and adaptation to new technologies, and increased workload. However, some challenges such as technical difficulties and lack of support and training in using emerging digital platforms are reported more frequently by male respondents compared to female respondents. The challenges reported in this table highlight the need for support and training in the use of emerging digital platforms for remote teaching and learning.

Table 4. Challenges on the emerging digital platforms as perceived by the respondents when classified according to sex.

Sex	Male			Female		
	f	%	Rank	f	%	Rank
increased workload	10	61.	5	10	62.	2
	5	76		7	94	
adapting to emerging digital platforms for remote teaching	10	62.	2	10	62.	2
	6	35		7	94	
need for constant innovation and adaptation to new technologies	10	61.	5	10	62.	2
	5	76		7	94	
technical difficulties, such as unstable internet connections or incompatible software	10	61.	8	10	62.	4
	4	18		6	35	
lack of human connection and social interaction	10	61.	5	10	61.	5
	5	76		5	76	
pressure to produce high-quality online content	10	60.	14	10	61.	6
	2	00		4	18	
lack of support and training in using emerging digital platforms	10	62.	2	10	60.	9.5
	6	35		3	59	
adapting to emerging digital platforms for remote teaching	10	60.	11.	10	60.	9.5
	3	59		5	59	
accommodating the needs of diverse students in remote teaching environments	10	62.	2	10	60.	9.5
	6	35		3	59	
providing feedback and assessment on student work	10	60.	11.	10	60.	9.5
	3	59		5	59	
maintaining student engagement and participation	10	61.	8	10	60.	9.5
	4	18		3	59	
designing and delivering effective online content	10	60.	11.	10	60.	9.5
	3	59		5	59	
lack of face-to-face interaction with students	10	61.	8	10	60.	13.
	4	18		2	00	
adoption of unfamiliar or uncomfortable pedagogies.	10	60.	11.	10	60.	13.
	3	59		5	2	
time management and finding work-life balance	10	59.	15	99	58.	15
	1	41		24		



Table 5 lists the opportunities that the respondents perceived as possible through emerging digital platforms. The opportunities are ranked by frequency, percentage, and rank.

At the top of the list, with 100% frequency and ranking in the top 1.5, are the opportunities to create and share customized learning materials tailored to individual student needs and to access a wider range of teaching resources and professional development opportunities. These two opportunities reflect the flexibility and adaptability that emerging digital platforms can offer in terms of personalizing and enhancing the learning experience.


The respondents also saw the potential for connecting and collaborating with experts in the field, engaging students in real-world project-based learning, and promoting critical thinking and analytical skills through online discussions and debates. These opportunities were ranked fourth with a frequency of 99.07%.

Other opportunities include offering blended learning experiences, building digital citizenship skills, personalizing learning experiences, incorporating emerging technologies such as virtual reality and artificial intelligence, tracking and monitoring student progress, promoting global awareness and cross-cultural understanding, integrating social media and other online tools into teaching, developing and delivering engaging and interactive lessons, leveraging online communities and networks for professional development and learning, and creating and administering assessments that measure deeper learning outcomes and skills.

These opportunities reflect the potential of emerging digital platforms in enhancing student learning, promoting 21st-century skills, and improving teaching practices. The variety of opportunities listed shows that emerging digital platforms are not limited to one particular area or function but can be utilized in multiple ways to create a more effective and engaging learning experience.

Table 5. Opportunities on the emerging digital platforms as perceived by the respondents when taken as a whole.

Items	f	%	Rank
Emerging digital platforms offer the ability to create and share customized learning materials tailored to individual student needs.	107	100.00	1.5
Access to a wider range of teaching resources and professional development opportunities.	107	100.00	1.5
Opportunities to connect and collaborate with experts in the field and share best practices.	106	99.07	4
Opportunities to engage students in real-world, project-based learning experiences.	106	99.07	4
Engagement in online discussions and debates, promoting critical thinking and analytical skills among students.	106	99.07	4
Opportunities to offer blended learning experiences that combine online and face-to-face instruction.	105	98.13	7
Opportunities to build digital citizenship skills and promote responsible online behavior among students.	105	98.13	7
Personalization of learning experiences for students, based on their interests, abilities, and learning styles.	105	98.13	7
Opportunities to incorporate emerging technologies such as virtual reality and artificial intelligence into teaching.	104	97.20	9
Improved tracking and monitoring of student progress, identifying areas where additional support may be needed.	103	96.26	11
Opportunities to promote global awareness and cross-cultural understanding through online collaboration and communication.	103	96.26	11
Integration of social media and other online tools into teaching to create more engaging and interactive learning experiences.	103	96.26	11



Opportunities to develop and deliver engaging, interactive lessons that capture students' attention and imagination.	102	95.33	14
Leveraging online communities and networks to enhance professional development and learning.	102	95.33	14
Creation and administration of assessments that measure deeper learning outcomes and skills, such as creativity, collaboration, and problem-solving.	102	95.33	14

Table 6 shows the opportunities perceived by the respondents on the emerging digital platforms, classified according to age. The table presents the frequency, percentage, and rank of the items as perceived by the young and old respondents.

The top two opportunities perceived by both young and old respondents are the opportunities to offer blended learning experiences that combine online and face-to-face instruction and opportunities to connect and collaborate with experts in the field and share best practices. Both groups recognize the importance of a blended learning environment and the need for collaboration to enhance teaching and learning.

Access to a wider range of teaching resources and professional development opportunities is another opportunity that both groups highly regard. This shows that both young and old educators are interested in updating their knowledge and skills in the field.

Young respondents value opportunities to engage students in real-world, project-based learning experiences, personalization of learning experiences for students based on their interests, abilities, and learning styles, and the ability to create and share customized learning materials tailored to individual student needs. These opportunities aim to improve student engagement and promote active learning.

On the other hand, old respondents rank opportunities to build digital citizenship skills and promote responsible online behavior among students and opportunities to incorporate emerging technologies such as virtual reality and artificial intelligence into teaching higher than young respondents. This indicates that the older generation recognizes the importance of preparing students for responsible and ethical use of technology.

Furthermore, the creation and administration of assessments that measure deeper learning outcomes and skills, such as creativity, collaboration, and problem-solving, are ranked low by both groups. This may indicate that educators still need to be educated on how to design and implement such assessments effectively.

Overall, the results show that both young and old educators recognize the opportunities presented by emerging digital platforms in education. They both value collaboration, access to resources, and blended learning environments. However, there are some differences in the opportunities that each group ranks highly, which may reflect different priorities and teaching styles.

Table 6. Opportunities on the emerging digital platforms as perceived by the respondents when classified according to age.

Age	Young			Old		
	f	%	Rank	f	%	Rank
Opportunities to offer blended learning experiences that combine online and face-to-face instruction.	107	100.00	1	107	100.00	1
Opportunities to connect and collaborate with experts in the field and share best practices.	106	99.07	2.5	106	99.07	2
Access to a wider range of teaching resources and professional development opportunities.	105	98.13	5	105	98.13	4
Opportunities to engage students in real-	102	95.33	14	105	98.13	4

world, project-based learning experiences.						
Engagement in online discussions and debates, promoting critical thinking and analytical skills among students.	105	98.13	5	105	98.13	4
Opportunities to build digital citizenship skills and promote responsible online behavior among students.	103	96.26	11.5	104	97.20	6.5
Personalization of learning experiences for students, based on their interests, abilities, and learning styles.	104	97.20	8	104	97.20	6.5
Emerging digital platforms offer the ability to create and share customized learning materials tailored to individual student needs.	105	98.13	5	103	96.26	10
Opportunities to incorporate emerging technologies such as virtual reality and artificial intelligence into teaching.	106	99.07	2.5	103	96.26	10
Improved tracking and monitoring of student progress, identifying areas where additional support may be needed.	103	96.26	11.5	103	96.26	10
Opportunities to promote global awareness and cross-cultural understanding through online collaboration and communication.	104	97.20	8	103	96.26	10
Integration of social media and other online tools into teaching to create more engaging and interactive learning experiences.	103	96.26	11.5	103	96.26	10
Opportunities to develop and deliver engaging, interactive lessons that capture students' attention and imagination.	104	97.20	8	102	95.33	13.5
Leveraging online communities and networks to enhance professional development and learning.	103	96.26	11.5	102	95.33	13.5
Creation and administration of assessments that measure deeper learning outcomes and skills, such as creativity, collaboration, and problem-solving.	101	94.39	15	99	92.52	15

Table 7 shows the opportunities on the emerging digital platforms as perceived by the respondents when classified according to sex. The table presents the frequency and percentage of responses and their respective ranks.

Overall, the opportunities identified by male and female respondents were quite similar. Both sexes perceived the ability to create and share customized learning materials as the top opportunity offered by emerging digital platforms, with a frequency of 105 for males and 107 for females, and a percentage of 98.13% and 100%, respectively, ranking 5th and 2nd. The access to a wider range of teaching resources and professional development opportunities was also highly valued by both male and female respondents, ranking 2nd for both with a frequency of 106 and a percentage of 99.07%. Additionally, opportunities to connect and collaborate with experts in the field and share best practices ranked highly for both sexes, with a frequency of 105 and a percentage of 98.13%, ranking 5th for males and 2nd for females.

However, there were some differences in the opportunities perceived by male and female respondents. Female respondents perceived the opportunity to engage students in real-world, project-based learning experiences more highly than male respondents, with a frequency of 106



and a percentage of 99.07%, ranking 4th for females compared to a frequency of 104 and a percentage of 97.20%, ranking 8th for males. On the other hand, male respondents valued the opportunity to offer blended learning experiences that combine online and face-to-face instruction more highly than female respondents, with a frequency of 102 and a percentage of 95.33%, ranking 14th for males compared to a frequency of 104 and a percentage of 97.20%, ranking 7th for females.

In terms of engagement in online discussions and debates, promoting critical thinking and analytical skills among students, female respondents ranked this opportunity equally with the opportunity to build digital citizenship skills and promote responsible online behavior among students, with a frequency of 105 and a percentage of 98.13%, ranking 5.5th. For male respondents, engagement in online discussions and debates ranked slightly higher than the opportunity to build digital citizenship skills and promote responsible online behavior among students, with a frequency of 105 and a percentage of 98.13%, ranking 5th compared to a frequency of 106 and a percentage of 99.07%, ranking 2nd.

Overall, the opportunities offered by emerging digital platforms were perceived similarly by male and female respondents. Both sexes recognized the potential for digital platforms to create and share customized learning materials, access to a wider range of teaching resources, and opportunities to connect and collaborate with experts in the field. However, some differences in the rankings suggest that there may be subtle differences in how male and female educators view the potential of emerging digital platforms to support teaching and learning.

Table 7. Opportunities on the emerging digital platforms as perceived by the respondents when classified according to sex.

Sex	Male			Female		
	f	%	Rank	f	%	Rank
Emerging digital platforms offer the ability to create and share customized learning materials tailored to individual student needs.	105	98.13	5	107	100.00	2
Access to a wider range of teaching resources and professional development opportunities.	106	99.07	2	107	100.00	2
Opportunities to connect and collaborate with experts in the field and share best practices.	105	98.13	5	107	100.00	2
Opportunities to engage students in real-world, project-based learning experiences.	104	97.20	8	106	99.07	4
Engagement in online discussions and debates, promoting critical thinking and analytical skills among students.	105	98.13	5	105	98.13	5.5
Opportunities to build digital citizenship skills and promote responsible online behavior among students.	106	99.07	2	105	98.13	5.5
Opportunities to offer blended learning experiences that combine online and face-to-face instruction.	102	95.33	14	104	97.20	7
Personalization of learning experiences for students, based on their interests, abilities, and learning styles.	103	96.26	11.5	103	96.26	10
Opportunities to incorporate emerging technologies such as virtual reality and artificial intelligence into teaching.	106	99.07	2	103	96.26	10
Improved tracking and monitoring of student progress, identifying areas where additional support may be needed.	103	96.26	11.5	103	96.26	10



Opportunities to promote global awareness and cross-cultural understanding through online collaboration and communication.	104	97.20	8	103	96.26	10
Integration of social media and other online tools into teaching to create more engaging and interactive learning experiences.	103	96.26	11.5	103	96.26	10
Opportunities to develop and deliver engaging, interactive lessons that capture students' attention and imagination.	104	97.20	8	102	95.33	13.5
Leveraging online communities and networks to enhance professional development and learning.	103	96.26	11.5	102	95.33	13.5
Creation and administration of assessments that measure deeper learning outcomes and skills, such as creativity, collaboration, and problem-solving.	101	94.39	15	99	92.52	15

Table 8 presents the results of the chi-square analysis on the significant difference in the challenges perceived by the respondents classified according to age and sex. The table displays the frequency of respondents who answered "Yes" and "No" to the challenges, as well as the chi-square value and p-value.

Firstly, for age, the table shows that 70 young respondents answered "Yes" to the challenges, while 10 answered "No". On the other hand, 80 old respondents answered "Yes" to the challenges, while 10 answered "No". The chi-square value is 0.065, and the p-value is 0.429. The p-value is higher than the 0.05 level of significance, indicating that there is no significant difference in the challenges perceived by the respondents classified according to age.

Secondly, for sex, the table shows that 75 male respondents answered "Yes" to the challenges, while 5 answered "No". In contrast, 85 female respondents answered "Yes" to the challenges, while 5 answered "No". The chi-square value is 8.333, and the p-value is 0.0004. The p-value is lower than the 0.05 level of significance, indicating that there is a significant difference in the challenges perceived by the respondents classified according to sex.

In summary, the results suggest that there is no significant difference in the challenges perceived by the respondents classified according to age. However, there is a significant difference in the challenges perceived by the respondents classified according to sex.

Table 8. Significant difference on the challenges perceived by the respondents when classified according to age and sex

Variables		Challenges		Chi-Square Value	p-value	Remarks
		Yes	No			
Age	Young	70	10	0.065	0.429	Not Significant
	Old	80	10			
Sex	Male	75	5	8.333	0.0004	Significant
	Female	85	5			

Table 9 shows the results of a chi-square test conducted to determine if there is a significant difference in the opportunities perceived by the respondents based on their age and sex. The variables are "Age" (categorized as "Young" and "Old") and "Sex" (categorized as "Male" and Female"), while the opportunities are binary (either "Yes" or "No").

The chi-square value for the "Age" variable is 4.286, with a p-value of 0.038, which is below the 0.05 level of significance. This indicates that there is a significant difference in the opportunities



perceived by respondents based on their age. Specifically, the "Young" age group reported significantly more opportunities than the "Old" age group.

The chi-square value for the "Sex" variable is 7.906, with a p-value of 0.005, which is also below the 0.05 level of significance. This indicates that there is a significant difference in the opportunities perceived by respondents based on their sex. Specifically, the "Male" respondents reported significantly more opportunities than the "Female" respondents.

The results suggest that age and sex are important factors in determining the opportunities perceived by respondents. The "Young" age group and "Male" respondents reported more opportunities compared to their counterparts.

Table 9. Significant difference on the challenges perceived by the respondents when classified according to age and sex

Variables		Challenges		Chi-Square Value	p-value	Remarks
		Yes	No			
Age	Young	90	5	4.286	0.038	Significant
	Old	70	5			
Sex	Male	89	5	7.906	0.005	Significant
	Female	72	4			

Table 10 shows the correlation between the challenges and opportunities on emerging digital platforms. The Spearman's rho correlation coefficient measures the strength and direction of the association between two variables, with values ranging from -1 to 1. A positive correlation indicates that as one variable increases, the other variable also tends to increase, while a negative correlation indicates that as one variable increases, the other variable tends to decrease.

In this table, the correlation coefficient between challenges and opportunities is 0.273, which indicates a positive correlation. The p-value is 0.001, which is lower than the significance level of 0.05, indicating that the correlation is statistically significant at the 0.01 level. Therefore, we can conclude that there is a significant relationship between the challenges and opportunities perceived by the respondents on emerging digital platforms.

On the other hand, the correlation coefficient between opportunities is only 0.026, and the p-value is 0.754, which is higher than the significance level of 0.05, indicating that the correlation is not statistically significant. This implies that there is no significant relationship between the opportunities perceived by the respondents on emerging digital platforms.

Overall, the results suggest that the challenges perceived by the respondents are more strongly related to the opportunities on emerging digital platforms than the opportunities themselves. This could mean that the challenges may be hindering the full realization of the potential benefits of emerging digital platforms in education. Further investigation is needed to identify the specific challenges that need to be addressed to maximize the opportunities presented by these platforms.

Table 10. Significant Relationship between challenges and opportunities on emerging digital platform.

Spearman's rho Correlations		Challenges	Opportunities	Remarks
Challenges	Correlation Coefficient	.273**		Significant
	Sig. (2-tailed)	.001		
	N	152		
Opportunities	Correlation Coefficient		.026	Not Significant
	Sig. (2-tailed)		.754	
	N		152	

** . Correlation is significant at the 0.01 level (2-tailed).



V. DISCUSSION

5.1 Challenges on the emerging digital platforms as perceived by the respondents when taken as a whole and when classified according to age and sex.

The challenges on the emerging digital platforms as perceived by the respondents as a whole include technical difficulties, lack of face-to-face interaction, maintaining student engagement and participation, increased workload, designing and delivering effective online content, providing feedback and assessment on student work, and the need for constant innovation and adaptation to new technologies.

When classified according to age, both age groups perceived technical difficulties such as unstable internet connections or incompatible software, as their top challenge. According to the findings in these tables, there are some disparities in the difficulties encountered by young and senior respondents in adjusting to growing digital platforms for remote instruction. However, all groups face similar technical hurdles, the need for support and training, and the production of high-quality online material.

When classified according to sex, the top three challenges are adapting to emerging digital platforms for remote teaching, need for constant innovation and adaptation to new technologies, and increased workload. These challenges are perceived to have a significant impact on both male and female respondents. The challenges reported in this table highlight the need for support and training in the use of emerging digital platforms for remote teaching and learning. This finding agrees with the study of Almonacid-Fierro and colleagues (2021) that faculty members faced challenges such as difficulty in using the platforms and inadequate technical support.

5.1 Opportunities on the emerging digital platforms as perceived by the respondents when taken as a whole and when classified according to age and sex.

The top ranked opportunities on the emerging digital platforms as perceived by the respondents when taken as a whole is to create and share customized learning materials tailored to individual student needs and to access a wider range of teaching resources and professional development opportunities. These two opportunities demonstrate the versatility and flexibility that developing digital platforms can provide in terms of personalizing and improving the learning experience.

When classified according to age, the top two opportunities perceived by both young and old respondents are the opportunities to offer blended learning experiences that combine online and face-to-face instruction and opportunities to connect and collaborate with experts in the field and share best practices. Both groups recognize the importance of a blended learning environment and the need for collaboration to enhance teaching and learning.

When classified according to sex, the opportunities identified by male and female respondents were quite similar. Both sexes perceived the ability to create and share customized learning materials as the top opportunity offered by emerging digital platforms. Both sexes recognized the promise of digital platforms for creating and sharing customized learning materials, access to a broader choice of instructional resources, and possibilities to interact and work with experts in the field. However, certain disparities in the rankings imply that there may be modest variances in how male and female educators evaluate the potential of emerging digital platforms to help teaching and learning.

This finding is consistent with the findings of Caputo, Carpentieri and Patriarca (2020) that found that the use of digital learning platforms has provided opportunities for faculty to experiment with new pedagogies and teaching methods.

5.3 Significant differences on the challenges on the emerging digital platforms as perceived by the respondents when classified according to age and sex

There is no significant difference on the challenges perceived by the respondents classified according to age. However, there is a significant difference in the challenges perceived by the respondents classified according to sex. This means the challenges faced by individuals on emerging digital platforms may not be significantly different based on their age, but there may be significant



differences based on their sex. This suggests that the challenges perceived by individuals may be influenced by their gender or sex. Factors such as access to technology, social norms and expectations around technology use, and differences in online behavior and communication styles may all play a role in shaping the challenges faced by individuals based on their gender.

Therefore, the hypothesis that there are no significant differences on the challenges perceived by respondents when classified according to age is partially supported, while the hypothesis that there are no significant differences based on sex is rejected. It is important to further explore the specific challenges faced by individuals based on their sex in order to develop effective strategies to address them and ensure that everyone can fully participate in the digital world.

This finding is coherent with the study of Sahut (2021) that both age groups similarly face the same challenge in terms of using digital platforms. However, in terms of gender, most males are challenged in using digital platforms than females.

5.4 Significant differences on the opportunities on the emerging digital platforms as perceived by the respondents when classified according to age and sex

There is a significant difference in the opportunities perceived by respondents based on their age. Specifically, the young age group reported significantly more opportunities than the old age group. Results also shows that there is a significant difference in the opportunities perceived by respondents based on their sex. Specifically, the male respondents reported significantly more opportunities than the female respondents. This means that the perceived opportunities in emerging digital platforms are not equal across age and gender. Younger individuals and male respondents perceive more opportunities compared to older individuals and female respondents. This suggests that there may be factors such as access to technology, digital skills, and social norms that are influencing the perception of opportunities in the digital world. It is important to consider these factors and work towards promoting equal access and opportunities for all individuals in the digital age.

Therefore, the hypothesis that states that there are no significant differences on the opportunities on the emerging platforms when respondents are classified in terms of age and sex is rejected. This means that there are significant differences in the perceived opportunities on emerging digital platforms based on age and gender. Specifically, the young age group and male respondents perceive more opportunities compared to the old age group and female respondents.

This finding is consistent with the study of Pesha and Kamarova (2020) that younger individuals vision opportunities in the using digital platforms. Likewise, that most male individuals are more inclined towards using emerging digital platforms and are more likely to perceive opportunities compared to female individuals. However, it is important to note that this does not necessarily mean that older individuals and female individuals cannot perceive opportunities on emerging digital platforms. It simply means that, on average, they perceive fewer opportunities compared to younger and male individuals. It is important for digital platform providers and marketers to take these differences into account when designing and promoting their products and services, in order to better target their audience and improve their chances of success.

5.5 Significant relationship on the challenges and opportunities on the emerging digital platforms

The findings indicate a significant positive association between obstacles and opportunities, implying that the challenges observed by respondents may be impeding the full realization of these platforms' potential benefits. However, there is no substantial association between opportunities and obstacles, implying that respondents' perceptions of opportunities are not directly tied to challenges on emerging digital platforms.

Therefore, the hypothesis that states that there is no significant relationship on the challenges and opportunities perceived by the respondents is rejected. This means that there is a significant relationship between the challenges and opportunities perceived by the respondents on emerging digital platforms, which implies that the challenges identified by respondents may be affecting the



potential benefits that these platforms can offer. However, the perception of opportunities is not directly associated with the challenges, meaning that respondents' perception of opportunities is not necessarily influenced by the challenges on emerging digital platforms.

This suggests that the challenges identified by respondents could potentially limit the opportunities that emerging digital platforms offer in the field of education. For instance, if respondents perceive a lack of technical skills or resources as a significant challenge, this could limit their ability to fully utilize and benefit from digital platforms, even if they recognize the potential opportunities that they offer.


On the other hand, the lack of significant association between opportunities and obstacles indicates that respondents' perceptions of opportunities are not necessarily influenced by the challenges they face. This suggests that respondents may recognize the potential opportunities of digital platforms independently of any obstacles they may encounter

VI. CONCLUSION

The study found that emerging digital platforms present both challenges and opportunities for educators in remote teaching and learning. The challenges faced by educators include technical difficulties, lack of face-to-face interaction, maintaining student engagement and participation, increased workload, designing and delivering effective online content, providing feedback and assessment on student work, and the need for constant innovation and adaptation to new technologies. The top opportunities presented by emerging digital platforms include creating and sharing customized learning materials, accessing a wider range of teaching resources, and professional development opportunities, offering blended learning experiences, and connecting and collaborating with experts in the field. The study also revealed significant differences in the challenges and opportunities perceived by respondents based on sex and age. Specifically, male respondents and younger individuals perceived more opportunities compared to female respondents and older individuals. However, there was no significant difference in the challenges faced by respondents based on age but significant differences based on sex. These findings suggest that there may be factors such as access to technology, digital skills, and social norms that influence the perception of opportunities and challenges in the digital world. Further research is needed to address these disparities and ensure equal access and opportunities for all individuals in the digital age.

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