Reconfiguring assessment practices and strategies in online education during the pandemic

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Abstract: The rise of the COVID-19 pandemic has led to the overhaul of the conduct of teaching and learning particularly in the assessment of learners during a time of crisis trapped in many structural and practical challenges. This study examines the assessment practices and strategies to protect its quality and integrity in the delivery of teaching and learning among higher education students at Zamboanga Peninsula Polytechnic State University, Zamboanga City, Philippines. This research employs a comprehensive and reliable survey questionnaire on the assessment practices and strategies for assessment, including its quality and integrity. A total of 300 students and teachers were purposefully selected for the study. Based on the findings, practical assessment and skill assessment were among the most widely employed strategies by the teachers. There was a need for skill development in distance learning which calls teachers to integrate it into skill assessment strategies. The study yields the current practices of the teachers in assessing the academic performances of the students, strategies to execute their assessment practices that comply with the health protocols, and strategies to safeguard the quality and integrity of these assessments despite the difficulties in the learning environment. This study is integral to extending the body of knowledge regarding the different assessment practices and strategies and how these influence the delivery of online education. Nevertheless, academic institutions should reconfigure their assessment practices in terms of which of these suits well their stakeholders.

1. INTRODUCTION

The COVID-19 pandemic spread across the globe restricting numerous sectors from working intact, especially for higher education causing the closure of traditional classes. Because of the vulnerability of face-to-face classes, thousands of school closures had been implemented to curb the continuous increase in cases (Toquero, 2020). This closure affected more than 1.2 billion learners worldwide (Tria, 2020) while in the Philippines the current education shifted to online and modular access which also affected more than 28 million learners in the country (UNESCO, 2020).

The focus of this current study is to examine the assessment practices and strategies to protect its quality and integrity in the delivery of teaching and learning among higher education

students at Zamboanga Peninsula Polytechnic State University during the crisis. The main choices of the educational sector in continuing the delivery of lessons are online and modular methods. Sharp and Sharp (2016) suggest that online instructors have to secure a learning experience that helps learners receive, preserve, and develop their predetermined skills because online learning is essentially "learning by them." Additionally, the inability to carry on through an online course may cause deterrence from registering for an online course in the future which increases the dropout and lessens the enrollment possibilities (Muljana & Luo, 2019).

However, as HEIs are becoming involved in online education, preserving honesty and integrity in this learning environment is significantly difficult to obtain (Cole & Swartz, 2013). In such a sense, more than 50% of the students are suspected to cheat on their final exams (Cole & Swartz, 2013), while the number might be more alarming to those institutions that do not have rules for academic dishonesty.

Major responsibilities of an academic institution are to connect students to their lessons through giving assignments and train teachers to be interactive with their students (Bailey, 2015). Conventionally, the assessment is the sole responsibility of the instructor and relies mostly on summative assessment methods (Sharp & Sharp, 2016). The method of assessment involves gathering information from an array of sources to develop a "rich and meaningful understanding" of student learning and to provide the essential information to improve future educational processes (Adzima, 2020). Furthermore, Sharp and Sharp (2016) and Adzima (2020) highlighted that assessment methods used in online learning environments depend mostly on learners' writing skills and the prominent concern among academic officials has often focused on the quality of educational experiences within an online class. Similarly, Adzima (2020) affirms that the beginning of alternative assessments comes as the result of the frustration of teachers because of the limitations of some conventional evaluation methods. Thus, it is difficult to differentiate between learners' performance from the course content and learners' writing skills; however, it is also interesting that more traditional educators are using alternative assessment methods.

As one of the biggest state colleges and universities in the Western Mindanao region of the Philippines, Zamboanga Peninsula Polytechnic State University (ZPPSU) made its curriculum aligned to the delivery of education according to the needs of students amidst the crisis. The institution implemented several restrictions to deal with the pandemic without compromising the quality of education, along with the incorporation of several assessment strategies to effectively assess the learning of students.

There is therefore a need to study the different strategies that teachers implement in online learning modality. Previous studies have modeled these strategies to be used such as socioeconomic inclusive (Fung et al., 2022), strict tracking (Heisig & Matthewes, 2022), project-based assessment (Beneroso, & Robinson, 2022) and portfolio assessment (Sanjaya, 2022), among others. Different studies have been conducted on these strategies but there is no research that reconfigures these assessment strategies as independent methods. Additionally, the literature is not able to determine which of these strategies are effective based on the demographic profiles of the stakeholders.

The rapid growth of technology is helping online learning to expand in enrollment, especially during this challenging time for the education sector. Technology brings students, from different locations together to interact, collaborate, and build a learning community (Muljana & Luo, 2019). During the crisis, technology bridges the gap between the students to come along the implementation of cyberspace learning because of this forcing situation. Activities make students "experience a sense of satisfaction, accomplishment, pride, and sometimes delight" (Bailey, 2015, p. 114) while building students' perseverance and sense of responsibility for the tasks assigned to meet the standards. Improved manifestations, the logic of autonomy, and the

aptitude to focus or control learning are among the frequently cited benefits of self and peer assessment (Mao & Peck, 2013). However, the implementation of online learning introduces different risks and challenges to both the teachers and students, especially in higher education institutions (HEIs) (Tria, 2020) including academic dishonesty and forced cheating. Assessment of activities based on the perceptions of teachers influences the effective strategies while involving students in assessments, which includes modeling or communication regarding assessment processes (Mao & Peck, 2013).

Objectives. The present study focuses on the quality of online education being given to students. It seeks to determine the types of assessments tools teachers used for online education during a pandemic, identify the strategies used to carry out the assessment in online education, and find out the strategies employed to protect the quality and integrity of the assessment of online education during the Pandemic, and subsequently assess responses based on respondents' demographic profiles.

2. METHOD

2.1. Population and Samples

The study used purposive and convenience sampling constituting the college students from Zamboanga Peninsula Polytechnic State University who were currently enrolled for the academic year 2020-2021. The sample consisted of 200 students from different demographics and 100 instructors teaching at the university.

2.2. Research Instrument

The study was quantitative research following the survey descriptive-comparative approach, applicable in comparing the means of the variables. In this study, comparing the variables (e.g., gender, computer literacy, status, academic roles) was essential in determining which assessment tools and strategies were applied to a certain profile, hence, allowing academic institutions to employ such reconfiguration based on the profiles of their stakeholders.

There were three sets of original surveys to gather information on three categories, namely an assessment practices survey, a survey on assessment strategies for leniency and flexibility, and a survey on quality and integrity. Three experts on educational assessments were sought to validate the statements and content of the instruments. Additionally, before the actual collection of data and analysis, the researcher ran a validity test resulting in 0.94, 0.93, and 0.89 of Cronbach's alpha. This showed that the three sets of original survey questionnaires used in this study were credible and had internal consistency.

2.3. Collection of Data

The researcher secured permission and clearance from the academic head before the administration of the survey questionnaires. All the participants were furnished a copy of the approved letter to conduct research including its purpose, ethical conduct, and voluntary clause to take part in this research. Upon the agreement between the authorities and the researcher, online forms were used to facilitate the administration and collection of information from the respondents. The entire study lasted from October 2020 to September 2021. The questionnaires were administered to the respondents and retrieved about two weeks later in July 2021. The retrieval rate was 100%. The entire survey happened online, and no face-to-face interaction was done to follow the guidelines of the Department of Health Philippines.

2.4. Data Analysis

Data gathered were analyzed in terms of frequency distribution, Mean, Standard Deviation for all descriptive data. Independent *t*-test and ANOVA were used for the significant differences of the responses based on the respondents' profiles. This study sought to determine the differences of employed assessment strategies and tools based on the demographics of the

participants. Hence, such parametric tests T-test and ANOVA were applicable to determine which group differed considering this type of analysis were hereby essential in reconfiguring the strategies to be implemented. Comparing the means by these parametric tests helped in identifying which tools or strategies were applicable to certain demographics.

2.5. Ethical Considerations

This study employed ethical standards to ensure protection, security, and safety of the participants. The methods of collecting data for this study were reviewed accordingly. It was ensured that all the participants of the study understood the purpose of conducting this research. Responses were kept confidential, and no third-party people had access to the data gathered. Only the researchers had the contact details and information of the participants.

3. RESULT

Question 1: What is the profile of the respondents in terms of: [i] Gender, [ii] Indigent Status, and [iii] Literacy?

Table 1. *Demographics of the Respondents.*

Category		Frequency (N)	Percentage
Gender	Male	110	30.0%
	Female	190	70.0%
Indigent Status	Indigent	168	59.0%
	Non-indigent	132	41.0%
Computer Literacy	Needs Training	164	57.0%
	Average to Advanced	136	43.0%
Academic Roles	Students	200	66.7%
	Teachers	100	33.3%

Table 1 presents different demographics corresponding to the categories under certain groups. Gender is divided into two groups by male that consisted of 110 (30%) respondents while 190 (70%) for females. Indigent status has 168 (59%) under indigent group and 132 (41%) respondents for non-indigent. Another demographic being presented is the Literacy Level, where 164 (57%) need training and 136 (43%) respondents are either average or advanced. Academic role is dominated by 200 students and 100 for teachers.

Most of the respondents are female. It is also remarkable that the respondents have insufficient technical skills and classify themselves as indigent.

Question 2: What are the types of assessments tools teachers use for online education during pandemic?

Table 2. *Assessment tools based on Gender.*

Gender	Assessment Tools	Mean	Remarks
Male	Portfolio-Based Assessment	3.30	High
Female		3.24	High
Male	Practical Assessment	3.16	High
Female		3.18	High
Male	Skill Assessment	3.23	High
Female		3.22	High

Legend: 1.0-1.60 very low, 1.61-2.20 low, 2.21-2.80 moderate, 2.81-3.40 high, 3.40-4.00 very high

Table 3. *Assessment tools based on Indigent.*

Indigent	Assessment Tools	Mean	Remarks
Indigent	Portfolio-Based Assessment	3.26	High
Non-indigent		3.32	High
Indigent	Practical Assessment	3.20	High
Non-indigent		3.25	High
Indigent	Skill Assessment	3.24	High
Non-indigent		3.28	High

Legend: 1.0-1.60 very low, 1.61-2.20 low, 2.21-2.80 moderate, 2.81-3.40 high, 3.40-4.00 very high

Table 4. *Assessment tools based on Literacy.*

Computer Literacy	Assessment Tools	Mean	Remarks
Needs Training	Portfolio-Based Assessment	3.20	High
Average to Advance		3.32	High
Needs Training	Practical Assessment	3.16	High
Average to Advance		3.19	High
Needs Training	Skill Assessment	3.15	High
Average to Advance		3.33	High

Legend: 1.0-1.60 very low, 1.61-2.20 low 2.21-2.80 moderate 2.81-3.40 high 3.40-4.00 very high

Table 5. *Assessment tools based on Academic Roles.*

Academic Roles	Assessment Tools	Mean	Remarks
Students	Portfolio-Based Assessment	3.26	High
Teachers		2.95	High
Students	Practical Assessment	3.16	High
Teachers		3.56	Very High
Students	Skill Assessment	3.23	High
Teachers		3.58	Very High

Legend: 1.0-1.60 very low, 1.61-2.20 low 2.21-2.80 moderate 2.81-3.40 high 3.40-4.00 very high

Table 6. *Assessment tools based on Overall Mean.*

Assessment Tools	Mean	Remarks
Portfolio-Based Assessment	3.23	High
Practical Assessment	3.23	High
Skill Assessment	3.28	High

Legend: 1.0-1.60 very low, 1.61-2.20 low 2.21-2.80 moderate 2.81-3.40 high 3.40-4.00 very high

Indicated in Table 2, the use of Portfolio-based assessment is common among male respondents having the mean of 3.30 interpreted as high preference level. In contrast to male respondents, female has the mean of 3.24. Practical assessment is being used by females with the mean of 3.18 than that of males who have 3.16 mean rate. Male respondents assess their students through skill assessment indicated in the mean 3.23 similar to the females having 3.22 mean rate. Neither of the tools is below a moderate level.

Table 3 shows that most non-indigent teachers use portfolio-based assessment indicated in the mean 3.32; indigent teachers moderately prefer portfolio-based assessment based on the 3.26 mean. Non-indigent ones also use practical assessment as a tool with a moderate mean 3.25. Indigents have a mean of 3.20 for a practical assessment. Skill assessment receives the mean 3.28 for non-indigent while 3.24 for the indigent. It is visible that all of the respondents moderately prefer the tool though a bit common among non-indigent.

Table 4 indicates that portfolio-based assessment is used by average to advanced respondents with the mean 3.32; in contrast to those who need training having a mean of 3.20. Practical assessment is used also by average to advanced teachers with a mean rate of 3.19 compared to those with limited skills with a mean rate of 3.16. For Computer literate respondents, they opt for skills assessment in online education with a mean rate of 3.33. The respondents moderately prefer the assessment tools in general.

Table 5 indicates the assessment tools being dominantly used during their lessons. As shown, teachers mark the use of skill assessment as the widely preferred assessment tool among their colleagues. In contrast, the students believe that the Portfolios-based assessment is most likely used to assess them. This also reveal that students are more output-centered while teachers are particular to the demonstrations of the lessons.

Overall mean shows the preference level of each of the determined tools. As Table 6 presents, highest remark among others is Skill Assessment with a mean rate of 3.28, while both Portfolio-based and Practical assessments have the mean score of 3.24. Skill assessment is commonly used among teachers than of practical and skills assessments. The general response is at moderate preference level.

Performance assessment derived from traditional approaches includes portfolio assessment along with competencies and skills assessment (Oudkerk Pool et al., 2020). Such practices are also available in this study. For students in this study, Portfolio-based assessment allows them to collect data and information that serve as evidence to their performances. Similarly, Oudkerk Pool et al., (2020) elaborated that evidence-based assessment needs a demonstration of the application of the lessons rather than only knowing those. This is the reason why skill assessment is the most widely used approach. However, it is unclear how the students demonstrated the applications of their lessons when it comes to skill assessment which Oudkerk Pool et al., 2020 argue could be unsatisfactory.

Portfolio-based assessment and practical assessments have also their limitations especially during online and modular approaches. In such a sense, professional institutions such as the Australian Computer Society (2001) regard it as important with which students and practitioners can demonstrate their knowledge and their ability to continually update their skills (Mao & Peck, 2013). Even before the pandemic, traditional assessment methods do this badly as they are developed for discipline fields with a low rate of change of knowledge because of one-time usage (Mao & Peck, 2013). Additionally, academic dishonesty is most likely to happen in portfolio-based assessment which affects the performance-outcome aspect of online education.

Question 3: What are the strategies used to carry out the assessment in online education during the Pandemic?

Table 7. *Assessment Strategies based on Gender.*

Gender	Assessment Strategies	Mean	Remarks
Male	Leniency	3.26	High
Female		3.38	High
Male	Flexibility	3.23	High
Female		3.39	High

Legend: 1.0-1.60 very low, 1.61-2.20 low 2.21-2.80 moderate 2.81-3.40 high 3.40-4.00 very high

Table 8. *Assessment Strategies based on Indigent.*

Indigent	Assessment Strategies	Mean	Remarks
Indigent	Leniency	3.32	High
Non-indigent		3.38	High
Indigent	Flexibility	3.30	High
Non-indigent		3.49	High

Legend: 1.0-1.60 very low, 1.61-2.20 low 2.21-2.80 moderate 2.81-3.40 high 3.40-4.00 very high

Table 9. *Assessment Strategies based on Literacy.*

Literacy	Assessment Strategies	Mean	Remarks
Needs Training	Leniency	3,31	High
Average to Advanced		3,39	High
Needs Training	Flexibility	3,27	High
Average to Advanced		3,43	Very High

Legend: 1.0-1.60 very low, 1.61-2.20 low, 2.21-2.80 moderate 2.81-3.40 high 3.40-4.00 very high

Table 10. *Assessment Strategies based on Academic Roles.*

Academic Roles	Assessment Strategies	Mean	Remarks
Students	Leniency	3,34	High
Teachers		3,5	Very High
Students	Flexibility	3,34	High
Teachers		3,47	Very High

Legend: 1.0-1.60 very low, 1.61-2.20 low, 2.21-2.80 moderate 2.81-3.40 high 3.40-4.00 very high

Table 11. *Assessment tools based on Overall Mean.*

Assessment Strategies	Mean	Remarks
Leniency	3.36	High
Flexibility	3.37	High

Legend: 1.0-1.60 very low, 1.61-2.20 low 2.21-2.80 moderate 2.81-3.40 high 3.40-4.00 very high

Table 7 indicates the use of the assessment strategies according to gender. The results show female teachers usually use both leniency and flexibility than the male respondents do with a mean of 3.38 and 3.39, respectively.

Table 8 shows that non-indigent respondents (3.32) are using the approach of leniency to their lessons than the indigent (3.32). Similarly, the non-indigent is flexible in their lessons as compared to the indigent ones. It is remarkable that the use of flexibility is at a high preference level for non-indigent respondents.

Table 9 has results for the use of assessment strategies according to the literacy levels of the respondents. As presented, individuals having average to advanced computer literacy are using both leniency (3.39) and flexibility (3.43) more commonly than those who need training.

Table 10 indicates that teachers are being lenient (3.50) to their lessons and activities, which is also agreed by the students. Similarly, students have also preferred the flexibility aspect of the course where their teachers consider their choice of how, and in what aspect their lesson must focus on.

As presented in Table 11, the respondents frequently apply the aspect of flexibility in their classes. It is also described that the assessment also follows leniency. Both have nearly equal preference levels which determine their usage depending on the applicability.

Distance learning does not need frequent face-to-face interaction of teachers and students (Naidu, 2017). Because of its applicability during the pandemic, distance learning has become a standardized teaching approach since in distance learning students have access to learning opportunities, at when or what pace, including examinations while students are enabled to take those whenever given to them (Naidu, 2017). It is found in this study that flexibility incorporates the teachers' considerations to how and why students find difficulties in coping in their lessons. Being flexible is a great choice for the teachers since they also struggle in their delivery of lessons as well as in teaching their students.

Another aspect is the lenient approach where it is described in this study that "higher grading standards consistently lead to higher achievement" like the argument of Gershenson (2020). However, since their tests are longitudinal study, the result of this study differs in a long run, but the central concept is somehow comparable.

Question 4: What strategies are employed to protect the quality and integrity of the assessment of online education during the Pandemic?

Table 12. *Assessment Strategies for Integrity Based on Gender.*

Gender	Assessment Strategies for Integrity	Mean	Remarks
Male	Parallel Validation	3.39	High
Female		2.98	High
Male	Randomization	3.02	High
Female		3.14	High
Male	Strict Condition	2.96	High
Female		3.15	High
Male	Penalization	2.91	High
Female		3.03	High

Legend: 1.0-1.60 very low, 1.61-2.20 low, 2.21-2.80 moderate, 2.81-3.40 high, 3.40-4.00 very high

Table 13. *Assessment Strategies for Integrity based on Indigent.*

Indigent	Assessment Strategies for Integrity	Mean	Remarks
Indigent	Parallel Validation	3.05	High
Non-indigent		3.06	High
Indigent	Randomization	3.16	High
Non-indigent		3.13	High
Indigent	Strict Condition	3.11	High
Non-indigent		3.20	High
Indigent	Penalization	3.02	High
Non-indigent		3.08	High

Legend: 1.0-1.60 very low, 1.61-2.20 low, 2.21-2.80, moderate 2.81-3.40 high, 3.40-4.00 very high

Table 14. *Assessment Strategies for Integrity Based on Computer Literacy.*

Computer Literacy	Assessment Strategies for Integrity	Mean	Remarks
Needs Training	Parallel Validation	2.97	High
Average to Advanced		3.09	High
Needs Training	Randomization	3.05	High
Average to Advanced		3.18	High
Needs Training	Strict Condition	3.00	High
Average to Advanced		3.21	High
Needs Training	Penalization	2.91	High
Average to Advanced		3.10	High

Legend: 1.0-1.60 very low, 1.61-2.20 low, 2.21-2.80 moderate, 2.81-3.40 high, 3.40-4.00 very high

Table 15. *Assessment Strategies for Integrity Based on Academic Roles.*

Academic Roles	Assessment Strategies for Integrity	Mean	Remarks
Students	Parallel Validation	3.02	High
Teachers		3.13	High
Students	Randomization	3.11	High
Teachers		3.50	Very High
Students	Strict Condition	3.09	High
Teachers		3.41	Very High
Students	Penalization	2.99	Moderate
Teachers		3.34	Moderate

Legend: 1.0-1.60 very low, 1.61-2.20 low, 2.21-2.80 moderate, 2.81-3.40 high, 3.40-4.00 very high

Table 16. *Assessment Strategies for Integrity based on Overall Mean.*

Assessment Strategies for Integrity	Mean	Remarks
Parallel Validation	3.07	High
Randomization	3.16	High
Strict Condition	3.14	High
Penalization	3.05	High

Legend: 1.0-1.60 very low, 1.61-2.20 low 2.21-2.80 moderate 2.81-3.40 high 3.40-4.00 very high

Table 12 indicates the results for the use of assessment strategies to protect the integrity of activities during lessons. Parallel Validation is used by the males with a moderate mean score of 3.39. Female teachers incorporate Strict Conditions (3.25) and Randomization (3.24) as strategies for protecting integrity. Penalization is less likely to be used among the strategies with a mean score of 2.91 for male teachers and 3.03 for female teachers.

Table 13 shows that non-indigent teachers use strict conditions as strategies for protecting integrity (3.20). While Randomization is commonly used by indigent teachers (3.16), both indigent and non-indigent teachers prefer penalization and parallel validation less as assessment strategies for integrity.

Table 14 presents the data for literacy as groups for assessment strategies in protecting integrity. Average to advanced teachers use Strict Conditions (3.21) and Randomization (3.18). The mean scores for teachers needing training indicate Randomization as the most used method (3.05), followed by Strict Conditions (3.00). Parallel Validation and Penalization are less preferred by both respondents.

Table 15 shows that the most used assessment strategy to protect the integrity for teachers is Randomization (3.50), where they essentially randomize and change the pace of the questionnaire to minimize the possibility of tapping to past lessons during exams. The students also find this as a crucial condition to be engaged in honesty. Strict condition is also a choice for teachers.

As shown in Table 16, both Randomization (3.16) and Strict Conditions (3.14) are the most preferred assessment strategies for academic dishonesty, which is followed by Parallel Validation with a mean score 3.07. The least preferred method in protecting integrity is Penalization.

As being suggested Lee-Post and Hapke (2017) faculty should also change assignments routinely, not to prevent cheating but also to keep them fresh and relevant. This shows that aside from being able to prevent academic dishonesty, randomization of test questionnaires could also help students in learning which is why the preference and usability level is high. In contrast, Holden et al., (2021) argued that the authority must follow strict guidelines and

standards concerning the preparation of texts to have a plagiarism-free classrooms. Similarly, on the essay written by Jenifer Garret, practiced surveillance tactics (e.g., multiple tests, and random test questionnaires) in classrooms could influence the way teachers give assignments and exams. Additionally, Stephens et al., (2021) state such an approach also impacts the culture of academic dishonesty. Consequently, both randomization and strict conditions have higher usage possibilities during online learning.

Nevertheless, the teachers in this study were less likely to punish and penalize their students for being dishonest; this is also the least used strategy in protecting integrity. Though in agreement with Holden et al., (2021), by adopting such an approach to control plagiarism, there is no significant effect because of no intellectual, moral, or ethical growth.

Question 5: Are there any significant differences between the assessment tools and strategies from determined demographics?

Table 17. *Significant Differences: Demographic Profile (Significant at 0.05).*

Demographics		F	Sig,	Remark
Gender	Flexibility	6.780	0.011	Significant
	Randomization	6.767	0.004	Significant
	Strict Condition	8.494	0.011	Significant
	Penalization	4.171	0.044	Significant
Indigent	Strict Conditions	5.685	0.019	Significant
Computer Literacy	Strict Conditions	4.965	0.028	Significant
Academic Role	Portfolio-based	7.502	0.007	Significant
	Practical Assessment	4.841	0.029	Significant
	Flexibility	5.379	0.022	Significant
	Strict Condition	10.33	0.002	Significant
	Penalization	4.749	0.031	Significant

Table 17 summarizes the parametric test for mean differences. The *p*-value is significant at 0.05. This further reveals the results where the commonly used tools and strategies have differences in usage among respondents. As shown, all of the assessment strategies for integrity are significant by the usage and preference levels. Flexibility in the assessment of lessons has also a significant difference.

Academic role widely differs on the perspectives they have; it is presented that this also varies on the usability and accessibility of the assessment tools and strategies, though.

4. DISCUSSION and CONCLUSION

Question 1: What is the profile of the respondents in terms of: [i] Gender, [ii] Indigent Status, [iii] Computer Literacy, and [iv] Academic Roles?

High participation rate comes from the female teachers and students (70.0%), which means most of the responses are based on the female perspective. In that sense, the results under the gender category are more likely according to the female teachers and students. The gender is therefore found to be a factor for the differences in the perspective as well as the approaches being delivered in assessing the students.

Furthermore, the indigent status of the respondents is considered as the factor because of its effect on the usability and accessibility to crucial resources for online learning. As provided earlier, 168 indigent individuals participated in this study.

Computer literacy is also an important aspect of online learning. This is where the delivery matters when there could be challenges that the participants encounter. These challenges would

certainly affect their completion of the activities and assessment in online media (Kaewsaiha & Chanchalor, 2019; Naidu, 2017).

Since the teachers are responsible for the implementation of assessments, they have the utmost control of how they commonly use them. As shown, the number of the students is twice as those of the teachers, which represents that most of the data come from how commonly used the approach is than how many actually use them. The students look into how one approach is frequently used while teachers look at how one approach seems to benefit them in assessing their students.

Question 2: What are the types of assessments tools teachers use for online education during pandemic?

The assessment tool that is mostly used by the teachers during the course is Portfolio-based Assessment for both male and female teachers. All of the tools presented are applicable for computer literate teachers and non-indigent teachers. It is described that the teachers use different methods based on their skills, knowledge, and ability to deliver them fluently and effectively.

Portfolio-based assessment is mostly used by teachers because of its ease and practicality. According to Oudkerk Pool et al., (2020), portfolios provide an overview of students' performances and their development within the course of online and modular approaches. Additionally, this also connects to the possibility of improving the quality of education because of its high usability. The teachers have this approach like the traditional one, which made the tool useful and preferred because of the familiarity and accessibility to the resources. In the study of Mao and Peck (2013), the teachers also revealed that portfolios offer improvement in educational efficiency because it removes the need for a separate graduate assessment mechanism and minimizes documentation effort of students. For such a reason, assessment is the "responsibility" of the instructors and teachers, and portfolios appear to be "forced activities" (Bailey, 2015). Additionally, students view portfolios, in either means, as a widely used approach, even before the pandemic.

Another preferred assessment tool is the use of Practical Assessment where the teachers give activities to their students to assess their ability to apply what they have learned. This would range from the video presentation, reading comprehension, task-centered activities, and performances. This further demonstrates their lessons and reflects them in such a manner they benefit from what they have learned. For students, skill assessment is applicable in distance learning, but technical issues are imminent. As supported by Kaewsaiha and Chanchalor's (2019), some teachers believe that the quality of the works submitted to them in distance learning is less likely aligned to their instructions. Notably, this current study identifies that skill assessment is applicable in distance learning for both indigent and non-indigent teachers.

Skill Assessment is also used by the teachers although it seems no direct recognition from the students. This shows that skills assessment potentially does not assess the students at all due to the barriers distance learning has.

Question 3: What are the strategies used to carry out the assessment in online education during the Pandemic?

Strategies for assessing the students include Flexibility and Leniency which have varying degrees of usage based on the preferences of the teachers. It is described that males are more lenient to their scoring style while females are flexible to their lessons. Computer literate is most likely flexible but could also adapt the lenient style. It is visible that both strategies have nearly equal usage possibilities during the pandemic.

Many distance students often do not set out to complete a course and often withdraw because of personal issues (e. g., psychological or modality) that have less relationship to the quality of

study program they are in (Naidu, 2017). In this scenario, teachers tend to be "flexible" to their students to continue the interaction between and among themselves.

The situation of today causes anxiety to the students as well to the teachers, which could be why the institution tries to be considerate to increase the confidence and be eager to finish their course. Naidu (2017) also argues that it is "incorrect to expect" that students can complete the activities in online learning without the supervision of their teachers. Because of the difference in the learning goals of students, likewise, schools and districts would do well to create grading standards to assess their students (Gershenson, 2020), and this is where the leniency comes across.

Flexibility is available in higher education to assess their students based on their skills and ability to complete the tasks; and because of the current situation, the teachers also tend to be lenient to increase the sense of achievement among their students. However, in a general manner, Flexibility is mostly used by institutions today more than the Leniency. This finding agrees to that of Bailey' (2015) study where the institution has to have an interactive design where the stakeholders are enabled in the sharing of strategies, experiences, testing of ideas, and sharing of results. Being flexible creates a climate where students are given the chance to be selective of the lessons and approaches that suit their current knowledge and capacity to execute the activities.

Question 4: What strategies are employed to protect the quality and integrity of the assessment of online education during the Pandemic?

Randomization is consistent for being the mostly used method in protecting the integrity of activities. The sort ranges from where the teachers create questionnaires that are related to the lessons and then essentially "tweaking" them for the following exams. Another available strategy is implementing surveillance, or guidelines that the students have to follow. It is remarkable that Penalization is less likely to be a choice for the strategy. Similar to *Question 4*, the teachers prefer the Penalization approach less because they are lenient and flexible to their lessons.

The pandemic made online education challenging because of the presence of academic dishonesty in online media. There are many factors that cause the students to be engaged in the plagiarism culture. One of the methods used by the teachers is randomly tabulating the question which also showed positive results in minimizing academic dishonesty according to Cole and Swartz (2013). Randomization makes the questions appear different to assess the understanding of the students and lessen the possibility to plagiarize the exam based on the previous exam results.

Additionally, Strict Conditions are also used because these discourage the students to be dishonest and urge them to follow specific guidelines set by their teachers. This is effective to building the culture of academic honesty by following the instructions and directions (e. g., criteria, and scorecards). In such a manner, the implementation of strict conditions in each activity controls cheating and dishonesty.

Penalization is less likely to be a choice for the teachers and students to control the cases of dishonesty. In fact, this has a less known effect based on recent studies.

However, it is suggested by Lee-Post and Hapke (2017) that the conflict of academic dishonesty could be signified along with values and ethical development among students. Additionally, colleges should reassess their prominent approaches towards cheating and academic dishonesty. Likewise, in this study, if current approaches are not maintaining a satisfactory level of academic honesty, approaches might also follow new methods either determined by the institution or not.

Question 5: Are there any significant differences between the assessment tools and strategies from determined demographics?

In this study, males prefer leniency while females prefer flexibility. Randomization, Strict Condition, and Penalization are different by gender which means there are different mechanisms that teachers could utilize online education. The indigent status also differs in a strict climate because non-indigent teachers tend to use this approach more frequently than the others. Similarly, the strict condition is used mostly by the computer-literate teachers due to their ability to locate dishonesty with their technical skills.

In the study of Ching and Hsu (2015), females prefer audio/video discussion because it allows them to have effective communication. In this current study, females also prefer such type of an assessment strategy because of its efficacy in delivering their performances. Likewise, professors were also asked to be lenient to student's schedules and deliver their lessons in flexible mode (Singgih, 2021). In terms of having a strict condition and penalization, females tend to see this as an approach utilized by their teachers in online education. Previous studies were able to determine that male students have higher tendency to cheat in online settings (Adzima, 2020) which this study was able to determine why males do not see the strictness as feasible in online learning.

Limited knowledge on the use of computers can impact the teaching experiences of teachers. Teachers require cognitive skills (e.g., decrypt images) and procedural skills (e.g., processing files) which are essential when using computer programs (Liu et al., 2020). Instructors need to have such skills to combat cheating in online assessment (Gamage et al., 2020). Hence, this showed that the ability to use different detecting strategies during assessments requires higher computer literacy.

Gender roles have the crucial information that displays the difference in the responses. Portfolio-based and Practical Assessments are widely recognized among teachers and students. Flexibility is preferred over leniency. While Strict condition is constantly a common approach, the respondents are also eying for possible penalization where the two are complementary approaches. However, the overall data differ from the other perspective. For such conditions, Slade et al., (2022) suggested that higher education have to reassess their purpose of assessment if they want to equip their learners with crucial skills and competencies for future workplace.

Computer literacy is not a factor for the use of assessment strategies (e. g., leniency and flexibility). No factor had displayed differences for the assessment tools (e. g., portfolio-based, practical, and skill assessments).

4.1 Recommendations

Higher education must have a holistic approach in assessing their students to maximize the learning they obtain during the pandemic. It is significant to follow the preferences and the ability of stakeholders to certain assessment tools and strategies to have the effect be relevant and timely to the needs of the teachers and students. There are varying methods that are found to be effective at some sort but at least to the other; in this sense, understanding the actual situation of higher education in advancing to online learning could yield enormous benefits for the institution. Guidelines of preferred assessments practices can be integrated as a policy on similar situations in the future. The teachers should also be aware of what assessment tools and strategies are applicable to them to increase the capacities and skills of their students amidst the pandemic.

1. Academic institutions have to employ assessment tools that are widely applicable to their students and will protect the quality and integrity of the assessment specifically following the initial guidelines of CHED (2020 & 2021) during the pandemic.

2. Education departments need to develop a guidebook or manual and provide support and training for the conduct of lenient, flexible, and quality assessments to the students and to the teachers needed further competence about assessments during crisis.

3. Education departments should continuously provide feedback to the educators and institutions and study assessment practices while navigating the educational environments during the pandemic and even post-pandemic until the institutions can come up with reliable policies and guidelines on assessments.

Declaration of Conflicting Interests and Ethics

The authors declare no conflict of interest. This research study complies with research publishing ethics. The scientific and legal responsibility for manuscripts published in IJATE belongs to the authors. **Ethics Committee Number**: Zamboanga Peninsula Polytechnic State University, ZPPSU-REOC-2021-001, May 24, 2021

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Jason V. Chavez: Investigation, Resources, Analysis based on the automated item selection procedure, and Writing-original draft. **Daisy D. Lamorinas**: Investigation, Resources, Analysis based on the automated item selection procedure, and Writing-original drafts.

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