

DISCOVERING TEACHERS' STRATEGIES TO MITIGATE ONLINE CHEATING: AN EXPLORATORY DESIGN

CHRIST MAY C. LUMPAS
JOHERIE M. WAGIA
JIMMY L. BALAYANAN
SALVACION J. ACELAR

ABSTRACT

This study examined the teachers' strategies to mitigate online cheating using exploratory research design. The exploratory sequential mixed method design is characterized by an initial qualitative phase of data collection and analysis, followed by a phase of quantitative phase of data collection analysis, with a final phase of integration or linking of data from two separate strands of data. More specifically, it aimed to construct, develop and evaluate the teachers' strategies to mitigate online cheating. In the qualitative phase, there were seven teachers who participated in the in-depth interview and ten teachers participated in the focus group discussion. There were three themes that emerged from the interview that put emphasis on setting integrity, incorporating hot questions and live proctoring. A 30-item teachers' strategies to mitigate online cheating scale was also constructed based on the results of the interview, which was subjected to the quantitative phase. In the quantitative phase, 200 questionnaire responses were analyzed for exploratory factor analysis (EFA). Results showed three underlying dimensions of teachers' strategies to mitigate online cheating. A total of three themes on teachers' strategies to mitigate online cheating questionnaire was developed which are setting integrity with a total of thirteen items, incorporating hot questions with a total of ten items and live proctoring with a total of five items and the overall the scale has a total of 28-item questionnaire. This study recommends that teachers must strengthen their rules and policies in the classroom to prevent students from cheating. Being aware of the possible punishments and consequences of such actions, students will perhaps avoid this kind of bad habits.

Keywords: *Teaching Strategies, Online Cheating, Exploratory Sequential Design, Factor Analysis, Municipality of M'lang, Philippines*

INTRODUCTION

Based on students and teachers, cheating has been surveyed to be more frequent in an online class (Harton et al., 2019). Data revealed that during COVID-19, Chegg, an online website that provides textbook solutions, online tutoring, and other academic student services, has increased its users by almost 200% between 2019 and 2020 (Lancaster & Cotarlan, 2021). Moreover, teachers reported that 30%-40% of their students cheated in their class (Volpe et al., 2018). With this, reports states that students test scores averages and other forms of assessments are increasing after the transition online (Eaton, 2020). As a result, due to these cheating habits of students, learning under online is questionable, these are now invalid in giving genuine reflection of students' learning (Arnold, 2021).

Different studies presented an idea as to why online courses could be more amenable to academic dishonesty. According to Kraglund-Gauthier and Young (2018) that one reason is because assessments often happen in unsupervised or unproctored settings. With this, it is difficult to confirm the identity of the test taker. Similarly, students who will take the assessments online can use unauthorized resources (e.g. cheat sheets, books or online materials) during assessments. This absence of a close relationship and interaction with an instructor during assessment – can encourage students to cheat (Dyer et al., 2020). Thus, Harmon et al. (2020) believed that proctoring is the main factor that can mediate cheating, especially when assessment is mostly done using multiple-choice questions. In support, Owens (2020) found that the frequency of students to engage in cheating behavior was higher in an un-proctored online assessment.

During before the online class, cheating is already one of the issues of assessment validity during face-to-face classes. And there have been many studies conducted before to address this issue. Yet, teachers are confronted by this problem again on cheating. However, at this time in the context of online-distance learning. This creates a new paradigm of problem to teachers and thus, with this limited body of knowledge on how and what are the best way to mitigate this issue, this study wanted to determine the strategies of teachers to mitigate online cheating.

This study will help maintain the quality of learning among students and maintain the integrity of the school that they keep providing quality graduates not just because of the grades but with the quality of the skills that the students' learned. Also, teachers can be the bridge towards this success. Specifically, this study will help teachers identify effective practices to mitigate cheating in every assessment they provided to students.

FRAMEWORK

Online learning allows teachers to have less control on students. In particular, teachers become unaware of what is happening on the part of the student while teaching and learning occurs. With this, online learning poses a major disadvantage on the learning performance assessment. Students are prone to cheat because it is difficult for teachers to monitor their practices while answering the given class activities. Thus, this study wanted to examine teachers' strategies to mitigate online cheating.

As a pragmatist point of view, this study believed that morality plays a great importance in handling students to mitigate their cheating habits. The idea of morality plays a major role in human's decisions making process. In the case of online cheating, being able to inculcate to students' good values perhaps can help to mitigate the tendency of students to cheat. Based on a study by Claed (2018) that one role of a teacher is not just to develop students' knowledge and skills, but as well as develop students' good moral character.

With this study is grounded on the Theory of Moral Development by Kohlberg's (1969). This theory on moral reasoning is associated with the cognitive proses of an individual before making any ethical decisions. In particular, there are three levels of cognitive moral development, starting from pre-conventional, conventional, to post-conventional. Each individual will go through these processes. An adult will reach the highest level and capable of applying

moral reasoning to universal principles (Forte, 2004). This highest level can be achieved if actions are taken based on moral principles. When someone used general moral principles to determine whether an action is ethical or unethical, it can be said that he/she has reached full moral development (Kohlberg, 1969).

In relation to academic cheating some previous research investigated that there are factors that govern students when they make some ethical judgments, and it is driven by their moral reasoning. Several studies found that the level of an individual's moral reasoning affected their ethical ability to resolve ethical dilemmas (Liyanarachi and Newdick, 2009). The individual will behave differently according to their levels of moral reasoning. An individual's morality will affect his/her propensity to commit unethical acts.

Thus, understanding the theory of moral development is an essential way to develop strategies to mitigate online cheating. Being able to incorporate the idea of this theory into the strategies taken by teachers to minimize unethical actions of students towards their learning can be an effective method to overcome these problems on online cheating today.

METHODS

Research Design

This study utilized an exploratory sequential research design. Exploratory research is defined as research used to investigate a problem which is not clearly defined. It is conducted to have a better understanding of the existing problem but will not provide conclusive results. For such research, a researcher started with a general idea and used this research as a medium to identify issues, which can be the focus for future research. Specifically, the researcher conducted an individual interview on teachers. Moreover, observation was observed and take notes of teachers' strategies to mitigate online cheating. In this way, the researcher becomes part of the social world and, through interviews, observation and document analysis is able to collect data. This data was used to create a rich description about teachers' strategies to mitigate online cheating in the current educational system through a naturalistic process of inquiry.

On the other hand, Creswell (1998) points out that qualitative researchers must "participate in a form of social and human science research that does not have firm guidelines or specific procedures and is evolving and changing constantly". Education changes and evolves daily. Teachers' have their own particular issues and approach the coursework with their own biases and thoughts. A qualitative researcher has the ability to, over a long period of time, document and reflect upon observations which occur in the natural setting. As the researcher begins to blend into the teachers experiences over time and become accepted by the members of the social world, authentic data will be collected.

Respondents

For the preliminary (qualitative) aspect, a total of ten high school teachers in the Municipality of Mlang were invited for an in- depth interview and another seven high school teachers for focus group discussion. The results of the interview were then used to identify the

emerging themes as well as to generate a questionnaire. The participants were determined using a snowball sampling technique. It is a non-probability method of participant's selection.

In the quantitative measurement, a total of 200 high school teachers answered the generated quantitative survey for exploratory factor analysis and confirmatory analysis. After the conduct of 200 questionnaires another 30 participants were requested for reliability test.

Instruments

This research formulated an interview guide question based on the objectives of the study. These interview guide questions were asked to the participants in the interview and during the focus group discussions. This interview provided views on teachers' strategies to mitigate online cheating.

Meanwhile, experts were invited to perform content validity of the interview questions and to check the sustainability of the items that captured the underlying dimensions of the views of teachers on their strategies to mitigate online cheating. The purpose is to ensure the readability and comprehensibility of the questionnaire.

Statistical Tools

The notes obtained from an in-depth interview were analyzed using Exploratory factor analysis. This method emphasizes pinpointing, examining, and recording patterns ("or themes") within data. Themes are patterns across data sets that are important to description or phenomenon and are associated with a specific research question (Boyatzis, 1998).

In quantitative data, the Factor analysis was used in the study. It determines empirically how many constructs, or latent variables, or factors underlie a set of items. Factor analysis is a multivariate analysis method which aims to explain the correlation between a large set of variables (items) in terms of an independent set of underlying factors. This statistical method can serve as an important tool for validating the structure of instruments (Nunnally, 1978; Carpenter, 2006) pointed out that factor analysis is not a simply defined statistical method, but a broad category of methods for conceptualizing groupings of variables that includes mathematical procedures for assigning variables to certain groups. Hare et al. (1998) defined factor analysis as the name given to a group of statistical techniques that can be used to analyze interrelationships among a large number of variables and to explain these variables in terms of their common underlying dimensions (factors). The approach involved condensing the information contained in a number of original variables into a smaller set of dimensions (factors) with a minimum loss of information.

The preliminary phase involved testing the data for suitability using KMO (Kaiser-Meyer-Okin measure of sampling adequacy) which signal in advance whether the sample size is large enough to reliably extract factors (Field, 2009) and Barlett's Test which test for the over-all significance of the correlation within a correlation matrix (Hare, 1998).

The next step involved the determination of dimensions of the unrotated factors of the data by initial extraction using principal axis factoring of Exploratory Factor Analysis (EFA). The first half of the data are utilized in this phase. Only the variables or items that appeared on the

matrix data that have a communality value of .40 are included. After which, it involves rotating the factors using Promax rotation. Rotating the factors is used in order to simplify the factor structure. It is in this phase which the numbers of dimension or factors are determined using the Kaiser rule. Using this method, only the extracted factors whose eigenvalues greater than or equal to 1 are retained. In addition, Cattell's scree plot criterion will be use in which eigenvalue of each dimension or factor is graphed.

The scree plot further validates the number of extracted dimension or factors to be retained. Eigen values are defined by factor loading coefficients (factor loading). These factor loadings are the correlation coefficients between the items or variables presented in rows and the factors or dimensions presented Columns which are labeled as Factor Rotation Matrix (Carpenter, 2006). This stage answers the underlying latent dimensions on teachers' conception on behavior management skills scale. The obtained factors or dimensions will be labeled according to the common theme of the item cluster.

RESULTS AND DISCUSSION

Emerging Themes of Teachers' Strategies to Mitigate Online Cheating

There are three themes that emerge from in-depth interview and focus group discussion with selected public high school teachers in the Municipality of M'lang that put emphasis on setting integrity, incorporating hots questions and live proctoring.

Setting Integrity. Many participants believed that inculcating good value to students is the best way to control students' cheating habits. The participants agree that encouraging their students to stay honest comes a positive benefit in life. Thus, for the participants, teaching students' good morale and right value is a must because that is the only tool for now to perhaps minimize the tendency of students to cheat. These are evident in the following quotes from the participants:

"Online class is prone on cheating that's why I always encourage my class to stay honest and upright in their academic requirements." (ID1, P5)

"Always remind the students that good deeds reap good outcomes in life." (ID1, P2)

"In an online class, inculcating good moral to students is a must." (FGD, P3)

Also, most participants stated that for the effectiveness in minimizing students' cheating habits, it is important to include in the class policy the value of being honest. The participants believe that for students to really abide with what you said, teachers must include it in the classroom rules. Meanwhile, the participants also highlighted that teaches should incorporate value lessons in the9r examples so that from time-to-time students will be reminded of being honest all the time. These ideas are present in the narratives of the participants stated below:

"I have in my classroom policy that they should be honest and maintain good behavior as a student" (FGD, P4)

"It is difficult to monitor my students in an online class but why I do is teach them the value of being good and honest in class." (IDI, P7)

The result on the importance of setting up integrity in the class to minimize academic dishonesty in online learning is supported by the idea of McKnab and Olmstead (2019). It was stated that academic dishonesty is a main concern in a distance learning where students work independently and with less direct monitoring of their actions by an instructor. With that, McKnab and Olmstead (2019) noted that strengthening and communicating the priority of academic honesty in online courses is a proven strategy to reduce misconduct. In particular, having a clear message to students on the importance of ethical behavior as well as the consequences of dishonesty is the best way to control their cheating behavior.

Moreover, Gibson et al. (2021) highlighted the value of articulating and reminding students of consequences of cheating. This strategy provides just-in-time cognitive cues that students not only will find hard to ignore but also provide documentation that students are informed and cannot plead ignorance. This can be an effective method for them to be always reminded not to cheat.

Incorporating HOTS Questions. Many of the participants believed that the level of questioning and assessment given to students can also contribute to their tendency to cheat. However, many of the participants believed that by using higher order thinking skills form of questions in constructing assessment to students can minimize their cheating habits. In particular, the participants claimed that one reason why students cheat is due to the fact that the answer to the questions in their activities can easily be copied from their peers and on the internet. But, by using higher order thinking skills form of questions, students will be forced to answer the questions by themselves. These statements can be found on the interview stated by the participants as follows:

"In my assessments, I avoid questions that only seek student to define the terms because this item can be cheated." (IDI, P1)

"I often include questions in my quizzes that are in the form of evaluation so that I can ensure that they are really the one who are answering their quiz" (IDI, P5)

Meanwhile, most of the participants pointed that students are likely to cheat when multiple choice form of assessments is use. The reason is, teachers cannot monitor if it is really the students who answered that particular question in the activities, given the fact that there is no supervision happen while the students are answering their activities. Many of the participants claimed that to address this issue, the best approach is to use essay and explanation type of activities instead of objective type activities. They also stated that if there are only few numbers of students in the class, one effective way to minimize their tendency to cheat is to give each of the students an individual items to answer. These statements are presented from the following narratives during the interview given as follows:

“Multiple choice and any identification type of quiz and exams are vulnerable to cheating, thus, I often assess my students’ learning based on essay and explanation” (IDI, P2)

“If my students are in a small scale, I often give them an individualized questions in the form of how’s and why’s” (FGD, P6)

The idea of the importance of incorporating higher order thinking skills forms of questions in assessing students’ learning to minimize their cheating behavior is supported by Shepard (2020). It was presented in the study that copying of answers, especially in an online activity was unavoidable. Since, students are given the same materials, students find an easy way out by copying others’ work. Therefore, critical thinking skill then was applied as an attempt to support the evidence of students’ work independency. This idea believed that by using higher forms of cognitive level, students are force to answer their own activities in their own.

Another study pointed that the ability to use critical thinking would help the students to avoid making mistakes and avoid asking for others’ answer and unfavorable decisions (Trenholm, 2019). However, it needed a hard work for teachers to develop it and to make it as habit I their classroom activities. Overall, adding some skills of critical thinking would not only help the students avoiding cheating each other, but also help them to develop the skills that could help them to avoid prejudices and biases as well as narrow ideas when facing complex issues around them (Trenholm, 2019).

Live Proctoring. Many of the participants believed that the easiest and practical way to minimize students cheating tendencies to proctor personally/live the students while they are answering their activities /quiz/exams. Depending on the online platform being use, there are features that teachers can see the students while they are answering their activities. Or most of the times, the teachers set rules that students must turn on their cameras while they are taking the test to really see if they are answering the given test honestly. With that, students will be conscious not to cheat because they are being monitored. These statements are present from the following narratives below:

“The best way to minimize cheating during quiz and exam is to proctor it personally, either the students will come to the school or open their cameras while answering the exams online” (IDI, P5)

“In our school, there is this live proctor feature where I can monitor my students while they are answering their quiz and exams.” (FGD, P2)

“Always conduct your assessment where you can monitor at the same time how they answer your quiz or exams.” (IDI, P1)

The result on the importance of proctoring lives the students while they are answering their activities or exams to minimize their tendency to cheat is in line with the study of Foster and Layman (2018). It was stated online proctoring involves the use of virtual tools for monitoring student activities during assessment activity. These tools (as they continue to overcome their limitations) have the potential for students to take an online exam at a remote

location while ensuring the integrity (security and trustworthiness) and reliability of the online exam. This includes the authentication of the student and their identity to secure and maintain the integrity of an exam and its administration (Foster & Layman, 2018).

Additionally, the benefit of live proctoring allows the students to be remotely monitored for potential cheating, suspicious movements, and posture such as talking to someone in the room, looking at a book, mobile device, or other printed media for answers. Also, it will prevent the students from using any other computer applications including the Internet browser, and user-computing processes (such as copying, pasting or printing) that can lead to potential cheating during the exam (Schultz et al. 2017).

Construction of Teachers' Strategies to Mitigate Online Cheating Scale

Based on the narratives of the participants, the Table 1 presents the teachers' strategies to mitigate online cheating scale items which are selected based on their frequency of occurrence from the responses in qualitative interviews. This 30-item questionnaire was subjected to data reduction technique using the exploratory factor analysis (EFA). Hence, the number of factors was fixed to three based on the a priori qualitative analysis dimensions.

Table 1
Teachers' Strategies to Mitigate Online Cheating

ITEMS
I always remind my students to be honest
I include good moral lessons in discussing my subject
I encourage my students every time to maintain high integrity
I included good values in my examples whenever I teach
I always made my students feel guilty whenever they commit cheating in my online class
I make sure I included the rule of having high integrity among my students
I always remind my students about our classroom rules of no teaching every time I start my class
I always made them feel guilty whenever they commit cheating in my online class
I always start my class with a prayer to develop them the sense of being honest ad fear on cheating
I always remind my students that good deeds reap good outcomes in life
I always tell my students the negative aspect of cheating
I make sure that my students are always reminded of our rules in the classroom
I counsel those students who got caught cheating about good values
I often include in my lessons the idea of being honest and good in every things we do
I avoid questions that only seek student to define the terms.
I often include questions in my quizzes that are in the form of evaluation
I sometimes include questions like why and how to really assess
I often assess my students' learning based on essay and explanation.
I often give them an individualized questions in the form of how's and why's
I give student questions that allows them to explain and evaluate
I still use multiple choice items in my exams and quiz as long as they are on a higher cognitive level
I make sure that my questions in my exams and quizzes are not searchable
I ensure that my assessments always seek for students' higher cognitive abilities
I make questions that can easily determine if the answers are copied or original
I use the live proctor feature while my students answering are their quiz and exams
I recommend to proctor the exams and quizzes personally
I always let the students' camera stay on while they are answering their exams
I always ensure that every time I assess my students' I am live present monitoring them
I always encourage to turn my students' audio while taking the exams
I make sure that I could see my students while they are answering the exams

Dimensions of Teachers' Strategies to Mitigate Online Cheating Scale

Testing a 30-item Teachers' Strategies to Mitigate Online Cheating Scale. To ensure that the construct can be tested for factor analysis, the Kaiser Meyer-Olkin Measure (KMO) of Sampling Adequacy and Bartlett's test of sphericity were performed. It can be gleaned in Table 3 that KMO value is .805 which is above recommended value of .5, which indicates that the sample is meritorious and adequate factor analysis. Kaiser (1974) recommends accepting values greater than .5 are acceptable. Furthermore, values .5 to .7 are mediocre, values between .7 to .8 are good, and the values between .8 to .9 are superb (Kaiser, 1974)

Table 2
KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.805
Bartlett's Test of Sphericity	Approx. Chi-Square	3636.688
	Df	435
	Sig.	.000

As shown in the preliminary analysis, it can be generalized that the 30-item teachers' strategies to mitigate online cheating is suitable and adequate for extraction of factors, and thus, ready for factor analysis.

Derivation of the Number of Factor Structure. The derivation of factor structure was determined through a priori results of qualitative data analysis wherein there are three dimensions of teachers' professional competencies amidst pandemic. Hence, the three-factor model exhibit clean patterns as shown in Table 3.

The factor loading below .4 are reduce from the model and based on the results only 28 items where accepted and passed the criteria then subjected for rotation and analysis.

After which, the 28 – item construct is then subjected for rotation. The pro-max rotation was used since the factors seem to be correlated with a coefficient above .50 which reflects that the data is not assumed as orthogonal.

The Table 3 shows the pattern matrix using Principal Axis factoring with a Promax rotation method of Promax with Kaiser Normalization. It can be observed in the results the loading of items in the three factors are above .4. It can be supported by Field (2005) that .4 is recommended and necessary to obtain the desired factors. Furthermore, it can be observed that there is no item cross-loading or not loading at all which means that the items best represent their factors. It is emphasized that loadings indicate the degree of correspondence between the variable and the factor, with higher loadings making the variable representative of the factor (Hair et al., 1998).

Table 3
Pattern Matrix Three Factor Model

	Factor		
	1	2	3
I always remind my students to be honest	.886		
I include good moral lessons in discussing my subject	.224		

I encourage my students every time to maintain high integrity	.858	
I included good values in my examples whenever I teach	.688	
I always made my students feel guilty whenever they commit cheating in my online class	.657	
I make sure I included the rule of having high integrity among my students	.651	
I always remind my students about our classroom rules of no teaching every time I start my class	.617	
I always made them feel guilty whenever they commit cheating in my online class	.617	
I always start my class with a prayer to develop them the sense of being honest and fear on cheating	.607	
I always remind my students that good deeds reap good outcomes in life	.569	
I always tell my students the negative aspect of cheating	.743	
I make sure that my students are always reminded of our rules in the classroom	.725	
I counsel those students who got caught cheating about good values	.666	
I often include in my lessons the idea of being honest and good in every things we do	.662	
I avoid questions that only seek student to define the terms.	.575	
I often include questions in my quizzes that are in the form of evaluation	.564	
I sometimes include questions like why and how to really assess	.562	
I often assess my students' learning based on essay and explanation.	.504	
I often give them an individualized questions in the form of how's and why's	.417	
I give student questions that allows them to explain and evaluate	.736	
I still use multiple choice items in my exams and quiz as long as they are on a higher cognitive level	.732	
I make sure that my questions in my exams and quizzes are not searchable	.702	
I ensure that my assessments always seek for students' higher cognitive abilities	.833	
I make questions that can easily determine if the answers are copied or original	.778	
I use the live proctor feature while my students answering are their quiz and exams	.446	
I recommend to proctor the exams and quizzes personally	.826	
I always let the students' camera stay on while they are answering their exams	.321	
I always ensure that every time I assess my students' I am live present monitoring them	.529	
I always encourage to turn my students' audio while taking the exams	.871	
I make sure that I could see my students while they are answering the exams	.722	

The item loadings of each item to their factor indicate sufficient correlation between factors and variables, and thus, can be considered as component of the factor. By using the

EFA, the three-factor model of teachers' strategies to mitigate online cheating with 28 items was developed as shown in Table 4, namely setting integrity, incorporating hot questions and live proctoring.

Final Version of Teachers' Strategies to Mitigate Online Cheating. The final version of the instrument, which is the output of this study, is represented in the form provided in Table 4. From 30 items, the analysis suggests several issues on face validity based on factor loadings on the items. Items that have small coefficient less than .40 are removed. This is supported by Hair et al. (2010) that those items having no sense and not reflective with the factor can be removed in the model. Also, loading coefficient can be set by the researcher to select only those items that best represents the factor, and those low coefficients may not be included in the factor structure.

By using EFA, Teachers' Strategies to Mitigate Online Cheating Questionnaire was developed. This tool is consisting of 28 items which consists of three themes. These three themes were obtained from the qualitative results. A total of three themes were developed which are setting integrity with a total of thirteen items, incorporating hot questions with a total of ten items and live proctoring with a total of five items. The 5-point Likert-scale from 5-strongly agree to 1-strongly disagree is shown below.

Table 4
Teachers' Strategies to Mitigate Online Cheating Questionnaire

ITEMS

Setting Integrity

- 1 I always remind my students to be honest
- 2 I encourage my students every time to maintain high integrity
- 3 I included good values in my examples whenever I teach
- 4 I always made my students feel guilty whenever they commit cheating in my online class
- 5 I make sure I included the rule of having high integrity among my students
- 6 I always remind my students about our classroom rules of no teaching every time I start my class
- 7 I always made them feel guilty whenever they commit cheating in my online class
- 8 I always start my class with a prayer to develop them the sense of being honest and fear on cheating
- 9 I always remind my students that good deeds reap good outcomes in life
- 10 I always tell my students the negative aspect of cheating
- 11 I make sure that my students are always reminded of our rules in the classroom
- 12 I counsel those students who got caught cheating about good values
- 13 I often include in my lessons the idea of being honest and good in everything we do

Incorporating HOTS Questions

- 14 I avoid questions that only seek student to define the terms.
- 15 I often include questions in my quizzes that are in the form of evaluation
- 16 I sometimes include questions like why and how to really assess
- 17 I often assess my students' learning based on essay and explanation.
- 18 I often give them an individualized questions in the form of how's and why's
- 19 I give student questions that allows them to explain and evaluate
- 20 I still use multiple choice items in my exams and quiz as long as they are on a higher cognitive level
- 21 I make sure that my questions in my exams and quizzes are not searchable
- 22 I ensure that my assessments always seek for students' higher cognitive abilities
- 23 I make questions that can easily determine if the answers are copied or original

Live Proctoring

- 24 I use the live proctor feature while my students answering are their quiz and exams
25 I recommend proctoring the exams and quizzes personally
26 I always ensure that every time I assess my students' I am live present monitoring them
27 I always encourage to turn my students' audio while taking the exams
28 I make sure that I could see my students while they are answering the exams
-

Legend:

- 5 - Strongly Agree
- 4 - Agree
- 3 - Moderately Agree
- 2 - Disagree
- 1 - Strongly Disagree

CONCLUSIONS

The emerging themes highlight the teachers' strategies to mitigate online cheating which put emphasis on setting integrity, incorporating hot questions and live proctoring. The result derived from factor analysis indicates that the teachers' strategies to mitigate online cheating has three factors that includes setting integrity, incorporating hot questions and live proctoring. Teachers' strategies to mitigate online cheating with 28 items was developed to measure the teachers' strategies to mitigate online cheating.

REFERENCES

- Dyer et al., J.M. Dyer, H.C. Pettyjohn, S. Saladin. (2020). Academic dishonesty and testing: how student beliefs and test settings impact decisions to cheat *Journal of the National College testing Association*, 4 (1) (2020), pp. 1-30 View Record in ScopusGoogle Scholar
- Eaton SE (2020) Academic integrity during COVID-19: reflections from the University of Calgary. *Int Stud Educ Adm* 48(1):80–85
- Forte, A. (2019). Business ethics: A study of the moral reasoning of selected business managers and the influence of organizational ethical climate. *Journal of Business Ethics*, 51, 167-173
- Gibson, J. W., Blackwell, C. W., Greenwood, R. A., Mobley, I., & Blackwell, R. W. (2021). Preventing and detecting plagiarism in the written work of college students. *Journal of Diversity Management*, 1 (2), 35-41.
- Harmon, Lambrinos, & Buffolino. (2020). O.R. Harmon, J. Lambrinos, J. Buffolino Assessment design and cheating risk in online instruction *Online Journal of Distance Learning Administration*, 13 (3) (2010) (n. pag. Web) Google Scholar
- Hart, L., & Morgan, L. (2020). Academic integrity in an online registered nurse to baccalaureate in nursing program. *The Journal of Continuing Education*

- Kohlberg, L. (1969). *The psychology of moral development: The nature and validity of moral stages (Essays on moral development, Volume 2)*. San Francisco, US; Cambridge, UK: Harper & Row.
- Kraglund-Gauthier & Young. (2017). W.L. Kraglund-Gauthier, D.C. Young “Will the real ‘John Doe’ stand up? Verifying the identity of online students,” L.A. Wankel, C. Wankel (Eds.), *Misbehavior online in higher education*, vol. 5, Emerald Insight, Bingley (2012), pp. 355-377 View Record in ScopusGoogle Scholar
- Lancaster T, Cotarlan C (2021) Contract cheating by STEM students through a file sharing website: a Covid-19 pandemic perspective. *Int J Educ Integr* 17(1):3. <https://doi.org/10.1007/s40979-021-00070-0>
- Liyanarachi, G. & Newdick, C. (2019). The impact of moral reasoning and retaliation on whistle-blowing: New Zealand evidence. *Journal of Business Ethics*, 89(1), 37-57.
- Owens, H.S. Owens. (2017). *Cheating with online assessments: a comparison of cheating behaviors in proctored and unproctored environments* Dissertation Abstracts International Section A: Humanities and Social Sciences, 77 (2017) (4-A) (E) Google Scholar
- Schultz, M. C., Schultz, J. T., & Gallogly, J. (2017). The management of testing in distance learning environments. *Journal of College Teaching & Learning*, 4(9), 19–26. <https://doi.org/10.19030/tlc.v4i9.1543>
- Shepard, L. A. (2020). “The role of assessment in a learning culture”. *Educational Researcher*, Vol. 29, No. 7, pp. 4-14.
- Trenholm, S. (2017). A review of cheating in fully asynchronous online courses: A math or factbased course perspective. *Journal of Educational Technology Systems*, 35(3), 281-300.
- Trenholm, S. (2019). “A review of cheating in fully asynchronous online courses: A math or fact-based course perspective”. *Journal of Educational Technology Systems*, Vol. 35, No. 3, pp. 281-300,.
- Volpe, R., Davidson, L., & Bell, M. C. (2018). Faculty attitudes and behaviors concerning student cheating. *College Student Journal*, 42(1), 164-175.
- Wolverton, B. (2016, October 26). In a fake online class with students paid to cheat, could professors catch the culprits? *The Chronicle of Higher Education*. Retrieved from <https://www.chronicle.com/resource/how-students-cheat-in-a-high-t/6122/>
- Young, J. R. (2016). Online classes see cheating go high-tech. *The Chronicle of Higher Education*. Retrieved from <https://www.chronicle.com/resource/how-students-cheat-in-a-high-t/6122/>