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Cheating in online assessment: a qualitative study on reasons and coping strategies focusing on EFL teachers' perceptions

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Abstract

A challenging aspect of online education is assessment since academic integrity could be violated due to students' cheating behaviors. The current qualitative research investigated English teachers' perceptions of why students cheat in online assessments. Besides, it attempted to find strategies to reduce cheating in online assessments. Twelve teachers (seven males and five females) with at least 5 years of teaching experience in different high schools in Tabriz, Iran, participated in the study. Data were collected through semi-structured interviews and were analyzed using MAXQDA version 2022. Freedom in the absence of an invigilator, unpreparedness for assessment, getting better grades/outcomes, low self-esteem/self-confidence, shortage of time/poor time management, peer influence or competition, not taking assessment seriously, fear of failure/bad assessment outcomes, and lack of respect for academic rules/the teacher were some reasons of cheating in online assessment revealed by the analysis of the data. The teachers suggested strategies to curb cheating in online assessment, such as randomizing questions, using open-ended and essay-format questions, designing different test methods and question types, restricting exam time, designing learner-specific questions, showing one question at a time, and providing clear exam instructions. The study has some pedagogical implications for faculty members and administrators.

Keywords: Academic dishonesty, Cheating, Curbing strategies, Online assessment, Security measures

Introduction

With the advent of technology, online education has led to changes in the academic landscape, and online modes of teaching have spread worldwide, giving way to questions regarding how to guarantee honesty in online classes, particularly during assessments (Holden et al., 2021). Thus, academic integrity is a challenging aspect of education that requires policymakers, teachers, and educators to adopt appropriate policies (Morris, 2023). However, despite the numerous benefits of online classes, which result in the continuation of online teaching and learning, cheating in online assessments has increased as students find it easy to get exam answers or unpermitted assistance from others (Bilen & Matros, 2021; Derakhshan & Shakki, 2024; Elsalem et al., 2021).



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Academic integrity in online assessment should be prioritized due to the decisive role of assessment in students' future lives and careers. That is why some individuals struggle to present an image of themselves that is not real, resulting in challenging conditions that make maintaining high academic honesty difficult (Holden et al., 2021). The non-invigilated nature of online assessment adds to the problem and creates more student cheating opportunities (King et al., 2009; Walsh et al., 2021), in which cheaters gain higher scores than those who do not cheat (Goff et al., 2020). Thus, the unfairness resulting from academic dishonesty can encourage cheating among students, leading to a more general problem of corruption in educational systems (Benson & Enstroem, 2023).

As a menacing issue, academic dishonesty or cheating dates back to the start of teaching and education (Ababneh et al., 2022; Ahmed, 2018; Griffin et al., 2015) and has serious negative personal, institutional, and societal consequences (Anderman & Midgley, 2004; Zhao et al., 2021). At the personal level, cheating results in the misevaluation of learners' learning and decreases the chance of receiving feedback and relearning on the part of the learner (Chance et al., 2015). At the institutional level, cheating can create an unjust condition that frustrates learners who do not cheat, contaminating the essence and culture of learning (Zhao et al., 2023). At the societal level, cheating results in distrust of the general public, employers in universities, students, and graduates (Norris, 2019).

Although recent studies have boosted our understanding of online cheating, the current study's researchers believe the issue still needs further exploration. Most studies on cheating are primarily done in Western countries (Bilen & Matros, 2021; Janke et al., 2021; Walsh et al., 2021), while cultural context might effectively shape learners' academic disintegrity (Aljurf et al., 2020; Tolman, 2017). Besides, like many similar areas related to human behavior, the subject matter necessitates multiple studies to discover individuals' incentives for cheating in online assessments. Investigating the issue from different perspectives can unravel the interwoven complex variables and the driving forces of individuals to misconduct in academic contexts. Another aspect of online assessment cheating is finding solutions for the problem, which is only possible when researchers from different settings and backgrounds look into the issue. Therefore, the present qualitative study focused on EFL high school teachers' perspectives to discover why students cheat in online assessments and aimed to find coping strategies to reduce such academic misbehavior among Iranian high school students.

Literature review

Theoretical background

Cheating is a misbehavior through which individuals tend to give or receive information from others, mainly when they aim to perform better on exams, present a different picture of their knowledge, or get good grades. As several researchers believe, cheating is a global phenomenon that has contaminated educational systems at different school and university levels (Anderman & Midgley, 2004; Baran & Jonason, 2020; Starovoytova Madara et al., 2016). A review of previous studies shows that most studies on cheating have attempted to find the variables (demographic, social, psychological, and situational) that might have relationships with such an act (Macgregor & Steubs, 2012; Pramadi et al., 2017). However, research done explicitly on the theoretical foundations

of academic cheating is scarce since, due to its multi-dimensional nature, no single theory can explain the underlying reasons for cheating. For example, Starovoytova Madara et al. (2016) refer to nineteen theories, ten models, and three approaches from several domains like psychology, sociology, and organizational theory to explain academic cheating behavior theoretically. However, they argue that an amalgamation of theories and not one single theory can explain the misbehavior since it is complicated and multifaceted.

Most studies have considered ethical issues or theories related to morality when discussing academic cheating. One such theory that explains the essence of cheating is Kohlberg's (1958) moral development theory. Kohlberg believes that individuals should learn about justice and unfairness. He counts on parents' responsibility to teach their children about moral issues, enabling them to differentiate between wrong and right. Kohlberg also views teachers' role in developing children's interpersonal relationships and teaching them to maintain social order. Dienstbier et al.'s experimentations on the impact of moral theories on cheating explain cheating as the result of the "interaction of moral schemas and emotional attribution processes" (1980, p. 214). Based on their investigations, Dienstbier et al. provide a model to explain the ethical reasons for cheating. They draw on behavioristic psychology and view cheating as a conditioned behavior originating from an emotional response to previous socialization. They believe honesty/dishonesty is an emotional arousal that activates moral schemata. Thus, moral schemata and emotions interact in tempting situations and force learners to act honestly (or dishonestly). Viewing cheating as unethical behavior, Moeck (2002) defines it within the theories of deviance in sociology. He believes cheating is a sign of disobeying social norms. In other words, cheating is a deviation from the accepted standards, which condemn cheating as dishonest and unethical.

Another theory that can explain cheating behavior is the psychodynamic theory (Gabbard & Rachal, 2012), rooted in Freud's psychological views. This theory focuses on individuals' past experiences and asserts that human behavior reflects such experiences. The theory considers individuals' feelings, emotions, and incentives nested in their unconscious minds to explain cheating behavior.

Cheating can also be defined within the conflict theory framework, as proposed by Marx (see Barkan, 2018), who believes the inadequacy of resources gives way to conflicts, forcing people to compete for more shares. Within this theory, it can be postulated that assessment causes competition among learners. In their challenge for future opportunities, they tend to cheat to gain superiority over their peers via cheating.

Cheating and online assessment

Academic dishonesty is an unfair advantage that can threaten the validity of online assessments. Thus, detecting and preventing students from cheating in online assessments is indispensable. Watson and Sottile (2010) found that students are more prone to cheating in online exams than in face-to-face exams, indicating challenges that authorities encounter in online assessments for maintaining their integrity. Several studies reported on cheating rates among students in different fields and levels. For example, Ebaid (2021) reported that cheating in online assessments was shared among 93% of accounting students in Saudi universities. Elsalem et al.

(2021) also found that 45% of medical science students at a university in Jordan were engaged in cheating in online assessments.

Similarly, Bernardi et al. (2012) reported an overrating increase in cheating worldwide among college students. Such findings warn researchers about cheating and encourage looking for practical steps to eliminate cheating behaviors by provoking focus on factors that influence academic dishonesty. One reason for such efforts is that the ease of cheating in online assessments compared to face-to-face assessments diminishes the authenticity of online education (Noorbehbahani et al., 2022), which in the long run can deprive many individuals who have problems with attending face-to-face classes of educating themselves. Besides, cheaters in online assessments will have higher chances of joining the workforce in the future while not having the required qualifications, which might have adverse outcomes for society. In their large-scale research, Henderson et al. (2023) found that academic dishonesty occurs despite security measures and assessment conditions. However, they reported that students' characteristics, such as age, gender, perceptions, and motivation, are decisive factors in their inclination toward cheating in online assessments.

On the contrary, in their study on 139 high school students, Pramadi et al. (2017) found individual characteristics are not the only predictive factor of cheating behavior. Multiple variables, including teachers, classmates, risk-taking, parents, school, and class, interact with personality factors. That is why teachers need explicit instruction on assessment, particularly online assessment (Estaji & Ghiasvand, 2024), to have a profound perception of assessment and use several techniques for successful online assessment. Improving teachers' assessment identity (Estaji & Ghiasvand, 2023) can affect students' behavior during online assessments (Estaji & Ghiasvand, 2024).

Classmates are also responsible for cheating behavior. Bernardi et al. (2012) found that cheating behavior can be stimulated by witnessing classmates cheating. Muthili Kimanzi et al. (2023) also reported that cheating in online assessments results from various reasons, such as peer pressure and a fear of failure. Another feature that can be related to learners' cheating is their anxiety and stress about getting higher grades (Awdry & Ives, 2022). Academic dishonesty can also be viewed from a cultural perspective. Aljurf et al. (2020) believe cultural issues can lead to different perceptions of cheating, increasing its probability among learners.

Accordingly, the issue of academic integrity in online assessment requires adopting effective strategies. For example, Bretag et al. (2019) found that students whose first language was not English cheated more during online assessments due to the cognitive load of dealing with exams in a language other than their L1. Novick et al. (2022) surveyed 500 university students and found a positive correlation between online assessment and cheating. Their study revealed that randomizing questions and avoiding using multiple-choice question formats are the most effective ways to reduce the rate of cheating. In another study, Sevnarayan and Maphoto (2024) concluded that students' lack of perseverance in studying, inadequate cognitive abilities, and difficulty managing their learning procedures result in academic cheating.

Managing cheating in online assessment

The threats of cheating in online assessment for education have caused educational institutions like universities, schools, and colleges to take preventive measures (Henderson et al., 2023). Security measures and changing assessment conditions have been employed to control the online assessment process. However, online cheating methods differ from physical assessment, such as hacking systems, fraudulent access to systems for impersonation, and access to online resources (Dawson, 2020). Therefore, academic institutions use different devices for identity verification (including student photo checking, multi-factor authentication, and checking fingerprints), detection of using authorized materials (through browser control and head pose monitoring), and the detection of receiving unauthorized assistance (through the use of microphone or webcams to control the assessment environment) (Asep & Bandung, 2019; Prathish et al., 2016). As Newton and Essex (2024) argue, employing remote proctoring systems is a response to concerns about cheating in online assessments. Students can be supervised through webcams and locked-down browsers in these systems.

Nevertheless, the effectiveness of these measures and systems is not yet apparent; thus, debates and controversies regarding their employment exist. Some believe that students might feel anxious about being under surveillance and that they are unfairly judged for cheating (Marano et al., 2024). A lengthy legal battle between proctoring companies and their critics indicates that it is still unclear whether using different systems can reduce cheating (Lawson, 2020). Whisenhunt et al. (2022) suggest ways to lessen cheating opportunities, such as guiding online exam preparation.

Several studies have concentrated on the types of security systems and surveillance levels that affect the cheating behavior of students (Atoum et al., 2017; Chuang et al., 2017; Gudiño Paredes et al., 2021), and some have explored students' perceptions of opportunity to cheat (Chirumamilla et al., 2020; Hylton et al., 2016). Besides, some researchers have addressed the different impacts of using proctoring instruments in decreasing the possibility of cheating (Bilen & Matros, 2021; Fask et al., 2014; Hylton et al., 2016). Zhao et al. (2023) reported that some universities employed various honor code reminders to reduce cheating during assessments. Some studies attested to their effectiveness in promoting academic integrity (McCabe et al., 2001; Tatum, 2022).

As the literature review shows, cheating in online assessment is a global issue that needs exploration. In the present study, the researchers defined cheating as getting improper assistance, such as using unapproved materials during online assessments and asking for others' help in answering questions to give a false impression of one's academic performance and gaining better grades. Thus, for the researchers, academic integrity is equal to following ethical principles and values, such as honesty and responsibility, that students should follow when being assessed for their academic outcomes. The present study focused on the reasons for cheating in online assessments from high school teachers' viewpoints and explored their perceptions regarding coping strategies to reduce cheating. Thus, the study aimed to answer the following research questions.

Research question 1: What are the main reasons for cheating in online assessments?

Research question 2: What coping strategies can reduce cheating in online assessment?

Methodology

Design of the study

The current study was qualitative and phenomenological in perspective, and interviews were used as the design of the study to gather the required data. The researchers used the interpretative phenomenological analysis (IPA), an inductive method, to collect examples of the phenomenon under scrutiny and then develop them into broader views based on the participants’ lived experiences regarding academic cheating (Smith and Nizza, 2022). The IPA method helps researchers ensure that the data collected from the participants are rich, first-person, and in-depth. Smith et al. (2019) noted that IPA is commonly utilized to develop models that significantly enhance the comprehension of the meaning individuals ascribe to their experiences. In the present study, the researchers attempted to delve into language teachers’ individual experiences to get insights that promote understanding of the probable reasons for cheating in online assessment by employing IPA.

Participants and setting

The researchers used purposive sampling to select 12 English language teachers from different high schools in Tabriz, Iran, as participants. Following Palmer et al. (2005), the criterion for sample selection was having at least 5 years of teaching experience, as the issue under scrutiny required experienced teachers. The sample comprised seven males and five females aged 25 to 32. The researchers explained the study’s objectives and informed the participants that they could withdraw from the study at any stage. They were also assured that their responses would be handled with the utmost confidentiality. Table 1 presents their demographic information.

Instruments

Semi-structured interviews were utilized to understand the participants’ viewpoints and answer the proposed research questions. Interviews are appropriate for examining sensitive topics and encouraging interviewees to respond unrestrictedly and express their perspectives (Sarantakos, 2005). The researchers developed eight interview questions after a thorough review of related literature. Then, they asked five university instructors with more than 10 years of teaching experience to judge the necessity and suitability of

Table 1 Demographic information of the participants

		Number and percentage
Education	Bachelor of Arts (BA)	6 (50%)
	Master of Arts (MA)	6 (50%)
Gender	Male	7 (60.4%)
	Female	5 (39.6%)
Experience	3–7 years	3 (36.6%)
	7–10 years	5 (24.6%)
	Above 10	4 (36.4%)
Holding Certificate in English Language Teaching to Adults (CELTA)		6 (50%)

the questions. Lawshe's formula was used to compute the content validity ratio (CVR) for interview questions (Gilbert & Prion, 2016). The experts considered six items as "essential," and thus, two questions were removed (see Appendix).

Procedure

The researchers used the Google Meet communication platform to contact the participants. Interview sessions, conducted in English and face-to-face by one of the researchers, were arranged in coordination with each individual's time and date preferences. Each interview took about 45 min, with overall discussions ranging from 55 to 80 min. First, the interviewer briefly introduced the study and asked the interviewees to discuss their experiences with online assessments (interview question one). The purpose was to establish a friendly atmosphere and encourage conversation. The second and third questions elicited the participants' general perceptions about online assessment. As the interviews proceeded, the respondents answered the questions carefully and attentively. The interviews were recorded with the respondents' consent and transcribed later for data analysis.

After transcription, to reduce potential bias and increase the study's trustworthiness (Guba, 1981), the researchers sent the data to the interviewees to ensure they agreed with the content of the transcriptions. They had the opportunity to change their views or amend the transcribed data. The member check enabled the researchers to enhance the credibility of the data. The results revealed no changes to the original transcribed data, although two interviewees added some additional issues. After inserting the new information, the researchers analyzed the data following IPA in several stages: first, they read the transcribed texts to understand the content, identify the major themes, cluster them, and detect their interrelationships. In the next step, they asked two external reviewers (an expert in qualitative data analysis and a university professor) to examine the data and verify whether they agreed with the extracted themes. They agreed with most codes and categories, although discrepancies existed between their views. After lengthy discussions, they agreed on the extracted themes, and their viewpoints were merged with the researchers'. Subsequently, the researchers summarized the themes with supporting examples (Smith et al., 2019). In the final stage, they used MAX Qualitative Data Analysis (MAXQDA) software version 2022 to create codes, categories, and themes, extracting eight categories with 354 codes.

Data analysis

The data were analyzed via inductive thematic analysis (Braun & Clarke, 2006). The result was obtaining 345 codes ($F = 345$) combined to create eight categories ($F = 8$). Finally, the related categories were classified under two higher-level themes ($F = 2$). To ensure the credibility of the data analysis results, an external coder expert in thematic analysis who had a Ph.D. in applied linguistics reviewed 20% of the codes. The external coder disagreed with the first coder (one of the researchers) on three codes. Thus, the coders reviewed, discussed, and modified them and agreed on the final version, leading to an inter-coder agreement coefficient of 96%.

Findings

The participants' answers to the first, second, and third interview questions showed they were reasonably familiar with online assessment, its advantages, and disadvantages. They emphasized that cheating threatens online assessment and endangers the validity of the tests and scores. They also believed cheating in such assessments has multiple reasons and asserted their preference for face-to-face exams until the security of online assessments is ensured. Besides, they all believed that most students cheat when an assessment is done online. They thought such an assessment could question the value of education and cause unfairness in society.

Theme 1: reasons for cheating in online assessment

The analysis of respondents' answers to the reasons for cheating in online assessments (interview question five) led to extracting four principal categories, as shown in Table 2 and Fig. 1: *Learner-oriented factors* (F = 120), *Educational and assessment-oriented factors* (F = 27), *Online-oriented factors* (F = 32), and *Teacher-oriented and parental factors* (F = 10).

Learner-oriented factors category included 19 codes, the most frequent of which was *Online assessment and anxiety/stress* (F = 21), *Freedom in the absence of an invigilator* (F = 18), *Unpreparedness for assessment* (F = 15), *Getting better grades/outcomes* (F = 11), *Low self-esteem/self-confidence* (F = 9), *Shortage of time/poor time management* (F = 9), and *Peer influence or competition* (F = 9). Other codes with less frequency embraced *Lack of motivation/interest* (F = 5), *Lack of strict regulations/consequences for cheating* (F = 5), *Not taking assessment seriously* (F = 4), *Impulsivity* (F = 3), *Fear of failure/bad assessment outcomes* (F = 3), *Lack of respect for academic rules/the teacher* (F = 3), *Lack of practical study skills* (F = 2), *Frustration due to lack of immediate assistance* (F = 2), *Laziness* (F = 2), and *lack of morality* (F = 2). However, *Negative perceptions of assessment* (F = 1), *Lack of responsibility* (F = 1), *Overestimating one's knowledge* (F = 1), and *Personal problems* (F = 1) were the least frequent codes. Some quotations from the participants pertaining to the Learner-oriented factors are as follows:

"Fear of failure may force learners to devote their time to designing cheating strategies instead of studying."

"The absence of proctors helps them use their sources for cheating without rigorous endeavors."

"The teachers do not have much control over how the students take the exam."

"Cheating may be the result of the anxiety posed on examinees due to the difficulties of answering questions in an online format."

The second category, Educational and assessment-oriented factors, included eight codes. The most frequent code asserted by the interviewees was *Unfair exam procedures* (F = 6), followed by *Difficulty of test questions/assessment* (F = 5) and *Overload of materials to be studied for exams* (F = 4). The other codes with less frequency were *Low quality of the online learning system* (F = 3), *Lack of teacher-student contact* (F =

Table 2 Reasons for cheating in online assessment

Categories and codes	Frequency (F)
Learner-oriented factors	120
Online assessment and anxiety/stress	21
Freedom in the absence of an invigilator	18
Unpreparedness for assessment	15
Getting better grades/outcomes	11
Low self-esteem/self-confidence	9
Shortage of time/poor time management	9
Peer influence or competition	9
Lack of strict regulations/consequences for cheating	5
Not taking assessment seriously	4
Impulsivity	3
Fear of failure/bad assessment outcomes	3
Lack of respect for academic rules/the teacher	3
Lack of practical study skills	2
Frustration due to lack of immediate assistance	2
Lack of morality	2
Negative perceptions of assessment	1
Lack of responsibility	1
Overestimating one's knowledge	1
Personal problems	1
Educational and assessment-oriented factors	27
Unfair exam procedures	6
Difficulty of test questions/assessment	5
Overload of materials for exams	4
Low quality of the online learning system	3
Lack of teacher-student contact	3
Poor exam design	3
Unrelated test questions	2
Use of summative assessment	1
Online-oriented factors	32
Ease of cheating in online platforms	18
Easy access to the World Wide Web	12
Anonymity during exams	2
Teacher-oriented and parental factors	10
Parental pressure/expectations	5
Teachers' lenience toward cheating	3
Parents' support for cheating	1
Teachers' unethical actions	1

3), and *Difficulty of the course/learning tasks* (F = 3). Some interviewees pointed to *Unrelated test questions* (F = 2) and *Poor exam design* (F = 3), and one respondent believed *summative assessment* (F = 1) could be the reason for cheating. The following are some quotations participants stated regarding the factors related to Educational and assessment-oriented:

“Students are compelled to cheat on online exams when the questions are overly difficult and unrelated to the course topic.”

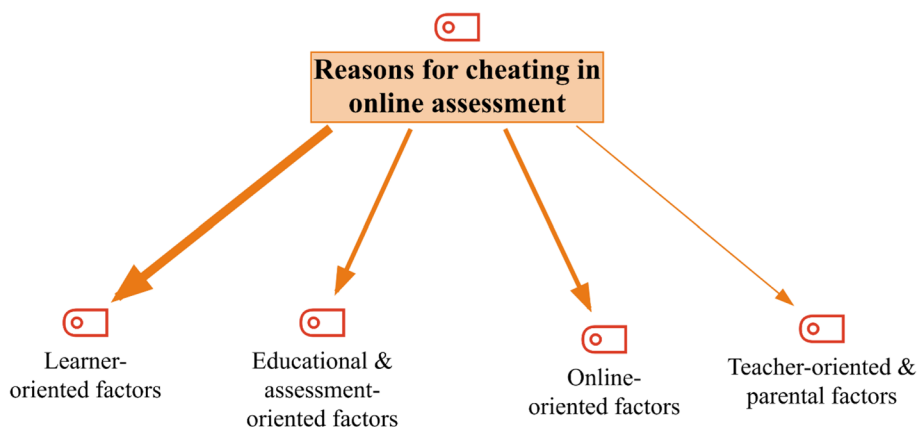


Fig. 1 Reasons for cheating in online assessment

“There is a lack of serious consequence if cheating is discovered.”

“Some students cheat because the materials are so overwhelming that they cannot completely study them.”

“A sense of receiving unfair treatment.”

The third category pertained to Online-oriented factors, including the three codes of *Ease of cheating in online platforms* (F = 18), *Easy access to the World Wide Web* (F = 12), and *Anonymity during exams* (F = 2). The following extracts indicate respondents’ viewpoints about Online-oriented factors:

“The ease of cheating in the online assessment context aided by technology plays a great role in the increased amount of cheating in virtual spaces.”

“Cheating is more frequent and easier in an online course.”

“The lack of control over learners’ activities and the easy access to authentic sources endow examinees with a proper chance for cheating.”

The last category within the first theme was “Teacher-oriented and parental factors,” which included four codes: *Parental pressure/expectations* (F = 5), *Teachers’ lenience toward cheating* (F = 3), *Parents’ support for cheating* (F = 1), and *Teachers’ unethical actions* (F = 1). Following are some excerpts to clarify the interviewees’ viewpoints:

“Some students are under pressure from their family to get better reports.”

“A lot of instructors choose not to report instances of online cheating.”

“The other reason why students cheat on online exams is family expectations. When a person receives family support for their studies, they see themselves obliged to meet the family expectations and be a perfect student; cheating is a way to promote one’s educational status.”

Theme 2: coping strategies to reduce cheating in online assessment

The second theme generated from data analysis was *coping strategies to reduce cheating in online assessment*, asked by the sixth interview question. As Table 3 and Fig. 2 show, four categories emerged under this theme: *Improvement of online assessment design and questions* (F = 85), *Improvement of online assessment security* (F = 36), *Promotion of honest conduct in online assessment* (F = 21), and *Teacher assistance to and good treatment of students* (F = 14). Accordingly, the first category, namely, *Improvement of online assessment design and questions*, *Creating questions requiring higher levels of thinking* (F = 11), *Randomizing questions* (F = 10), *Using open-ended and essay-type questions* (F = 9), *Designing different test methods/types of questions* (F = 9), and *Restricting exam time* (F = 7) were the most frequent codes. The codes with lesser frequency were *Designing learner-specific questions* (F = 6), *Showing one question at a time* (F = 5), *Employing quality test design* (F = 5), *Employing oral assessment* (F = 3), and *Using performance-based assessment* (F = 3). However, *Using problem-solving questions* (F = 2), *Allotting more score to class performance and less to exam* (F = 2), *Providing clear exam instructions* (F = 2), *Giving sufficient exam time* (F = 2), *Using open-book tests* (F = 2), *Setting separate time frames for each assessment task/question* (F = 2), *Using all-at-once assessment* (F = 1), *Setting assignments instead of tests* (F = 1), *Giving sample tests to students* (F = 1), *Using a proper grading system* (F = 1), and *Employing think-aloud requests during exam* (F = 1) were the minor frequent codes. The following are some extracts taken from the respondents' viewpoints related to the Improvement of online assessment design and questions:

"Teachers can devote more marks to students' participation in the class and set lower marks for the final assessment as a strategy to cope with cheating."

"Posing questions requiring a higher level of thinking."

"Teachers should spend much time designing different types of questions."

"Additionally, it is important to ensure that the assessment is timed appropriately, that the instructions are clear and unambiguous, and that the assessment is properly graded."

"The second strategy is to restrict time. When time is given more than needed, students feel free to take advantage and check their answers with verified sources."

The second category, *Improvement of online assessment security*, embraced codes for *Setting an open-camera policy* (F = 14), *Using suspicious-activity/plagiarism detector systems/software* (F = 9), *Disabling the copy and paste features* (F = 4), *Using desktop-sharing policy* (F = 3), *Setting strict anti-cheating regulations* (F = 2), *Asking students to unmute their microphones* (F = 2), *Using a random password generator* (F = 1), and *Using safe exam browsers* (F = 1). Some quotations stated by the respondents are:

"Disabling the copy-and-paste features"

Table 3 Coping strategies to reduce cheating in online assessment

Categories and codes	Frequency (F)
Improvement of online assessment design and questions	85
Creating questions requiring higher levels of thinking	11
Randomizing questions	10
Using open-ended and essay questions	9
Designing different test methods/types of questions	9
Restricting exam time	7
Designing learner-specific questions	6
Showing one question at a time	5
Employing quality test design	5
Employing oral assessment	3
Using performance-based assessment	3
Using problem-solving questions	2
Allotting more scores to class performance and less to exam	2
Providing clear exam instructions	2
Giving sufficient exam time	2
Using open-book tests	2
Setting separate time frames for each assessment task/question	2
Using all-at-once assessment	1
Setting assignments instead of tests	1
Giving sample tests to students	1
Using a proper grading system	1
Employing think-aloud requests during exam	1
Improvement of online assessment security	36
Setting an open-camera policy	14
Using suspicious-activity/plagiarism detector systems/software	9
Disabling the copy-and-paste features	4
Using a desktop-sharing policy	3
Setting strict anti-cheating regulations	2
Asking students to unmute their microphones	2
Using a random password generator	1
Using safe exam browsers	1
Promotion of honest conduct in online assessment	21
Promoting dedication to academic integrity	7
Speaking to students about the consequences of cheating	5
Teaching culture of assessment to students	5
Integrating honor codes into online evaluation	3
Informing students that diligence is more important than scores	1
Teacher assistance to and good treatment of students	14
Trying to reduce students' stress	4
Creating a more engaging and friendly atmosphere	3
Setting realistic expectations of students	2
Providing resources helping students prepare for assessment	2
Changing students' views about learning	1
Trying to build relationships with students	1
Increasing students' sense of community	1

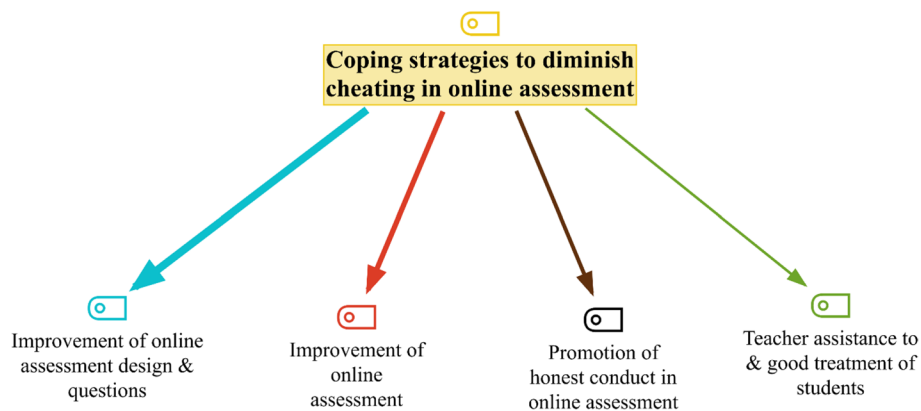


Fig. 2 Coping strategies to reduce cheating in online assessment

“The teachers can use a policy like open cameras during the exam or use software with noise detection.”

“Plagiarism checker programs and authenticators could work to the benefit of the educators.”

“Some types of cheating can be automatically avoided by using cheat-resistant systems.”

Promotion of honest conduct in online assessment, the third category, included *Promoting dedication to academic integrity* (F = 7), *Speaking to students about the consequences of cheating* (F = 5), *Teaching culture of assessment to students* (F = 5), *Integrating honor codes into online evaluation* (F = 3), and *Informing students that diligence is more important than scores* (F = 1). The following extracts can clarify the interviewees’ viewpoints:

“Instructors are responsible for reinforcing academic integrity by instituting honor codes.”

“An institution’s dedication to academic integrity is another technique that may be beneficial in reducing cheating in online environments.”

“Teachers should warn their students about the severe consequences of cheating.”

“It is important to emphasize the importance of integrity and academic honesty.”

The last category, Teacher assistance and students’ good treatment, comprised *Trying to reduce students’ stress* (F = 4), *Creating a more engaging and friendly atmosphere* (F = 3), *Setting realistic expectations of students* (F = 2), *Providing resources to help students prepare for assessment* (F = 2), *Changing students’ views about learning* (F = 1), *Trying to build relationships with students* (F = 1), and *Increasing students’ sense of community* (F = 1). Following are some excerpts related to Teacher assistance and good treatment of students:

“The next thing teachers can do to decrease cheating in online assessments is to have

more engaging and interesting classes.”

“Looking for ways to strengthen students’ sense of community in online classes is one of them. Learners in online classes would feel less alienated and more a part of a community if provided with opportunities to feel closer to the teacher and their classmates.”

“The last thing teachers can do to diminish the chances of cheating is to reduce the stress level in students.”

Discussion

The participants’ answers to the first interview question verified their viewpoints regarding students’ reasons for cheating in online assessments. In the interviews, the respondents provided fruitful suggestions regarding the strategies to enhance the integrity of online assessments. The review of the interviewees’ answers (as shown in Table 2) shows that stress and anxiety were the most prominent reasons for students’ cheating, probably arising from the absence of face-to-face contact with the teacher and feeling lonely. The presence of teachers in the exam sessions can give learners a sense of security because they feel they can get clarification when they are confused. An alternative reason for students’ stress could be the pressure they experience to get good grades, which forces them to cheat. This finding aligns with previous studies (Ives, 2020; Muthili Kimanzi, 2023). Conversely, Varble (2014) found that students gained better scores in online assessments than in face-to-face exam sessions, not because they cheated but because they felt more relaxed.

Another code found from data analysis, lack of immediate assistance, however, with lesser frequency than stress and anxiety, also indicates that the online assessment causes stress. Current researchers assume that learners try to overcome their negative feelings by cheating. In the same line, Putwain (2009) found that exams are a source of stress because students tie their future success to the results of the tests they must take. Similarly, Abdelrahim (2022) maintains that examinations can create stress, increasing students’ engagement in cheating, especially during online tests.

Additionally, the findings showed that participants attributed learners’ cheating to personality factors such as low self-esteem, overestimating one’s knowledge, and impulsivity. Impulsive learners are more prone to cheating than reflective learners because they are inclined toward taking risks without giving their actions a second thought (Vorauer et al., 2009). This finding is in line with Mcternan et al. (2014), who found that impulsivity and empathic feelings (like low self-esteem) correlated with cheating behaviors. Besides, lack of motivation, responsibility, and preparation, which can result from personal problems, could also force learners to cheat in exams, particularly when there is inadequate supervision during online assessment sessions (Sevnarayan & Maphoto, 2024). Students’ problems indicate that their other priorities leave no room for perseverance. Low motivation can also be due to not learning (Dişlen, 2013). In line with Kim et al. (2013), the present study clarified that teachers’ responsibility to use effective teaching strategies can facilitate learning. Teachers also should have a supportive attitude toward learners to give them self-confidence and encourage them to improve their

willingness to learn. Henderson et al. (2023) argue that supporting attitude and feeling responsible toward learners' education can increase their motivation not to cheat.

Another reason for cheating is peer influence, which can happen for two reasons: competing to get better grades and peer pressure. Competition for getting better grades and making progress without having the required qualifications can explain students' cheating in online assessments. Drawing on Marx's views (Barkan, 2018) regarding the shortage of resources could be a possible assumption. Students' attempts to provide themselves with future opportunities can stimulate them to cheat, especially in online assessments, as there is a consensus that cheating online is more accessible than face-to-face assessments (King et al., 2009; Walsh et al., 2021). Pulfrey et al. (2018) argue that a competitive setting affects students' cheating. They state that students are more likely to cheat when they see themselves in competition with others than when they perceive a less competitive environment.

Likewise, peer pressure can explain the increased cheating in online assessments (Akbulut et al., 2008). While students may get help from peers to answer the questions, they keep silent and do not report their peers' misconduct because they want to remain loyal to their peers or worry about being judged as traitors (Muthili Kimanzi et al., 2023). Moreover, studies show that witnessing classmates' cheating can encourage such misbehavior among students (Bernardi et al., 2012; Pulfrey et al., 2018). These findings indicate that teachers should be active in dealing with cheaters and adopt an uncompromising attitude.

Additionally, a lack of morality among learners appears to be one of the reasons for cheating in online assessments. In line with Kohlberg (1958), the current researchers assume that raising learners' consciousness toward fairness issues can awaken their understanding of socially accepted norms. One factor essential in reducing cheating is reminding individuals of the negative consequences of cheating in online exams, as put forth by previous studies (Cizek, 1999; Zhao et al., 2023). Thus, teachers should educate students on the immoral aspects of cheating and its negative impact on students, workplaces, and society. However, establishing friendly relationships with learners rather than adopting a didactic tone can more effectively encourage unfavorable attitudes toward cheating (Ababneh et al., 2022). Such efforts can occur through course syllabi, ethics courses, setting honor codes, and the Ethics Committee/Honor Board (McCabe, 2016; McCabe et al., 2006). In their study, Ives et al. (2017) found that not punishing students involved in cheating boosts such an act among them. Teachers, principals, and policy-makers should consider punishments and negative consequences for those involved in academic dishonesty.

For some learners, cheating is a sign of disrespect to academic rules, assessments, and teachers. Moeck's (2002) opinion regarding theories of deviance can best explain the issue. By violating the norms of society, some learners intend to show their opposition to social norms or legal systems. Research shows that proctoring online exams could be a good measure for confronting breaking the rules and reducing cheating in online exams (Alessio et al., 2017; Arnold, 2016; Hylton et al., 2016). Cultivating interpersonal relationships (Kohlberg, 1958), fostering student-peer perceptions (Stogner et al., 2013), and underscoring cultural values (Hendy et al., 2021; Chen, 2020) can also reduce the cheating rate among students.

Another reason for cheating, as the findings indicated, was time pressure in examinations and fear of failure, a finding consistent with previous studies (Anderman & Won, 2019; Burrus et al., 2016), which found that students who were under time pressure to complete the exam and experienced the fear of failure were more prone to cheating. For some students, the need to get a good score prevails over acquiring knowledge. Thus, as previous studies showed, supervising students through online visual/audio monitoring and online proctoring can reduce the rate of cheating (Dendir & Maxwell, 2020; Dyer et al., 2020; Gudiño Paredes et al., 2021). Educational centers should integrate proctoring for all assessments and examinations when creating online coursework curricula. As Dyer et al. pointed out, “Faculty and staff should not make the egregious mistake of believing an honor code, signed statement of integrity, verbal acceptance of syllabi expectations, or other tacitly communicated acceptance is alone enough to sway academic dishonesty in online courses” (p. 19). Proctoring online assessments reveals the institution’s commitment to ensuring the quality of online exam results. On the other hand, not taking any measures from educational centers to provide a secure exam administration can be interpreted as not considering cheating and test security important.

Regarding the second code, educational and assessment-oriented factors, the respondents’ answers put the responsibility on teachers’ shoulders. Codes such as unfair exam procedures, difficulty of tests, poor exam design, and overload of materials (Table 2) indicate that teachers should strictly follow the rules of testing and assessment in language teaching (Brown, 2012). Teachers can avoid administering unfair exams by following the rules for test construction, such as preparing tables of specifications (Fives & DiDonato-Barnes, 2019). Questions requiring higher-order thinking skills, randomizing questions, and using essay-type questions are other solutions that can lower the cheating rate in online assessments (Novick et al., 2022). Besides, by defining the course’s objectives, teaching within the scope of the syllabi, and asking colleagues to review exam questions for relevance and difficulty level before the administration, teachers can reduce the chances of cheating in online assessments.

Furthermore, effective online teaching strategies, such as online questioning and answering, can reduce the rate of cheating in online assessments. Teachers can assess their students’ capabilities by designing assignments and tasks that require creativity rather than plagiarizing others’ works. Besides, by employing formative assessment techniques, teachers can assess their students at various intervals and decrease the role of the final exam. Teaching and testing are not separate; thus, the researchers of the current study, in line with Stogner et al. (2013), argue that by incorporating effective teaching techniques, such as occasional group video calls, teachers can increase student-teacher contact, develop rapport, and encourage students to respect their teachers, which can affect the rate of cheating in online assessment.

On the other hand, it is necessary to help students develop learning goals by detecting their needs and interests when planning instruction. Students with strong learning objectives are less likely to cheat in examinations (Krou et al., 2021; Zhao et al., 2023) since they regard cheating as an undermining factor for proper understanding. Teachers should support learners in setting their learning goals by providing valuable feedback, creating collaborative learning environments, and fostering autonomous learning

(Aryanjam et al., 2021; Dişlen, 2013). Although challenging, such a learning environment can effectively decrease the cheating rate.

The third theme related to reasons for cheating arises from the nature of online assessment. Ease of cheating and using the internet necessitates more supervision of such exams, requiring educational centers and teachers to take responsibility for reducing the opportunities for cheating. Relevant instruction (Day et al., 2011; Estaji & Ghasvand, 2024), continuous communication (Khan, 2017), honor codes (Tatum et al., 2018), security measures during exams (Lepp, 2017; Weinstein, 2013), and the use of plagiarism detection instruments (Jones, 2011) have all been reported as effective. Educational centers and teachers should warn students that cheating is not easy and that several tools can catch and punish violators of academic integrity (Hosseini et al., 2021). The current study adds to this by emphasizing the importance of proctored settings and invigilated exam sessions. Educational centers should implement the required tools to enforce their commitment to academic honesty.

Teacher-oriented and parental factors, as the last source of academic dishonesty, need particular attention. Educational centers should continuously have school meetings with parents to explain the menaces of cheating. The problem of academic dishonesty can only be solved when schools, teachers, and parents cooperate. Parents should be reminded of the disadvantages of academic dishonesty and asked to talk with their children (Pramadi et al., 2017). Teachers' unethical actions need more attention from educational centers. The value of their work as educators of generations should be reminded. They should also be invited to be more strict against cheating and take practical steps to enhance the integrity of their profession.

Conclusions

Academic dishonesty/cheating is a widespread challenge that academic administrators, instructors, parents, and students should take unconditioned measures to mitigate. The adverse outcomes of academic dishonesty are not limited to the classroom; they have negative consequences for society, the education system, and the workplace. Supervising online assessments via every possible measure requires the cooperation of academic centers, policymakers, teachers, and parents. Fostering ethical values among students and teachers can help avoid such misconduct. Besides, employing appropriate strategies for syllabus designing, teaching, and testing can reduce students' tendency toward cheating. However, such actions do not eliminate the role of invigilated exams. Unfortunately, spending so much time controlling learners instead of teaching them reduces teachers' enthusiasm and energy, resulting in a decline in the quality of education. Online assessment is likely to remain; thus, implementing procedures to curb cheating through higher accountability is suggested.

This current study showed that no one reason can explain cheating; thus, further triangulated studies with parents, principals, and administrators are necessary. Future studies can examine the impact of ethical instructions and elements of critical thinking like fairness, justice, and truthfulness on students' cheating behaviors. This study was limited in the number and selection of participants; thus, generalizing findings should be done cautiously. Although qualitative studies do not aim to generalize findings, interviewing

more teachers from other areas and diverse cultures and backgrounds can deepen views regarding the reasons for cheating and how to cope with them.

Appendix

Interview questions

- 1) Do you have any experience with online assessments in your classes?
- 2) What are the merits of online assessment?
- 3) What are the demerits of online assessment?
- 4) Do you think students cheat in online assessments?
- 5) Do you have any idea why some students cheat on exams?
- 6) Do you have any idea about how to minimize cheating?

Abbreviations

BA	Bachelor of Arts
CELTA	Certificate in English Language Teaching to Adults
CVR	Content validity ratio
EFL	English as a foreign language
F	Frequency
IPA	Interpretative phenomenological analysis
MA	Masters of Arts
MAXQDA	MAX Qualitative Data Analysis

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Authors' contributions

KJ contributed substantially to the formation of research aims and the study design, ran the interview sessions for data collection, analyzed the data, interpreted the findings, and helped write the manuscript. MR contributed to developing the research aims, wrote the introduction and literature review sections, helped in the transcription and interpretation of the data, wrote the discussion section, and reviewed and revised the manuscript. FM contributed to the formation of the study design, helped in writing the literature review section, ran interview sessions, transcribed and analyzed data, and reviewed the findings. All authors read and approved the final manuscript.

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Availability of data and materials

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Declarations

Ethics approval and consent to participate

All procedures performed in the study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Competing interests

The authors declare no competing interests with respect to the research, authorship, and/or publication of this article.

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