



ISYDE2024

Italian Symposium on
DIGITAL EDUCATION

University of Pavia 19 - 21 June 2024

Lifelong Digital Learning and Education:
promoting flexibility, inclusion, critical thinking and
international exchange

Annamaria DE SANTIS, Elena CALDIROLA e Pietro CARRETTA

Conference PROCEEDINGS



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Preface

ISYDE 2024, the *Italian SYmposium on Digital Education*, has been jointly organized by the *Italian e-Learning Society* (Sle-L, <https://www.sie-l.it/>) and *Italian Society for Media Education Research* (SIREM, <https://sirem.org/>).

The 2024 edition focused on “Lifelong Digital Learning and Education: promoting flexibility, inclusion, critical thinking and international exchange” and aimed to promote innovative teaching and learning experiences enabled by technologies in the national and international scenario, able to transform educational paths into flexible and inclusive ecosystems.

Good teaching practices are the starting point for removing barriers and promoting inclusion, intercultural, and international exchange; favoring wellbeing and professional upskilling and reskilling throughout life through education and appropriate communication strategies; critically analyzing digital messages and environments.

The conference, which serves as a meeting point for sharing research, experiences, and technological applications, was held at the University of Pavia (Italy) from June 19 to 21, 2024.

Nearly 200 participants presented more than 60 contributions merged into eight Sections in the proceedings:

- Blended and Distance Learning (8)
- Teaching innovations, Communicating Science and emerging technologies in Education (10)
- Digital UpSkill and ReSkill for Adult Learners, Career Development and Training (5)
- Experiences in Education (11)
- Digital Citizenship and Media Literacy (4)
- Diversity, Equity, and Inclusion (6)
- AI in Education (13)
- Collaboration Projects and Networks (5).

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An investigation into students' perceptions on academic integrity in University Blended Learning Courses

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Abstract

The paper describes the results of a semi-structured questionnaire aimed at students enrolled in blended degree programs to investigate their perceptions and awareness of academic integrity and academic misconduct and evaluate the extent of cheating. The study is part of a broader research that aims to depict the impact of online assessment in the context of university distance courses and carry out an exploratory investigation to map guidelines and best practices developed in the university context to encourage academic integrity. The study employs a mixed methods research design that integrates quantitative tools (semistructured questionnaire) with qualitative ones as focus groups with students and faculty involved in the research. The data collected will also be used to develop guidelines, recommendations, and digital resources on academic integrity to share between instructors and students in blended or online degree programs.

Keywords: Online Assessment, Academic Integrity, Cheating, Plagiarism, Academic Literacy, Blended Learning.

1. Research background

Online assessment has gained increasing popularity, sparking debates and encouraging the adoption of differentiated assessment methods and digital tools in both traditional and distance university courses (Sannicandro, 2023). As a result, the growing prevalence of online assessment experimentation and research in universities has led to the development of a valuable and widely applicable framework for mapping assessment processes (Poth et al., 2014). These processes involve reflexive, technical, and situational approaches (Canadian Evaluation Society, 2015; Patton, 2014). Reflexive approaches focus on theories and evaluation practices, as well as the application of standards and levels. Technical approaches deal with the strategic, methodological, and interpretative decisions required to conduct an assessment. Situational approaches focus on understanding and analyzing the unique circumstances of each assessment.

This fosters greater awareness of assessment processes, which can have a substantial impact when integrated into the organizational culture (House, 1993). Against this complex background, several studies have explored policies and practices surrounding the management of online exams, as well as the viewpoints of instructor and learners. Although many universities have implemented digital proctoring solutions and plagiarism detection software in an effort to mitigate the risks of dishonesty, these tools alone are not sufficient to ensure a safe and transparent assessment environment. Focusing solely on the critical issues of academic misconduct may prove ineffective. Indeed, when assessment needs to respond to different, often opposing interests, it is necessary to use heterogeneous approaches,

methods, and criteria. This requires the involvement of all stakeholders, including instructors, students, and instructional designers, who should share their views on the means and ends of assessment. Academic integrity is based on six core values: honesty, trust, fairness, respect, responsibility, and courage, according to the *International Center for Academic Integrity* (ICAI, 2014). Upholding these values is crucial, even in challenging circumstances. Consequently, academic misconduct may include using resources and other materials not authorized by the lecturer, assisting others to cheat, falsifying one's identity, and plagiarism by using the work of

others, even in part (Hill et al., 2021; Holden et al., 2021). Therefore, we are dealing with complex phenomena that not only involve plagiarism or cheating during assessment tests (Surahman et al., 2022; Tatum et al., 2022), but can also include contract cheating and ghost-writers, not forgetting the use of recent artificial intelligence (AI) tools.

Academic integrity and *academic literacy competencies* have thus taken on a central role in higher education, shaped by various key factors. The development of academic literacy extends beyond a purely cognitive process; it is a socially and culturally situated practice, serving as a crucial tool for students' integration and socialization within the academic community (Li, 2022). The rise in student mobility, the expansion of access to university education, and the growing competition in the labor market (ENQA, 2024) have broadened learning opportunities but have also introduced new challenges. Furthermore, the increasingly diverse student body, with many balancing work and study while engaging in both face-to-face and online learning experiences, has further complicated this landscape.

The study presented here is part of a broader research project that aims to investigate the impact of online assessment in the context of online university courses (Sannicandro, 2023). It begins with an analysis of the main research trajectories developed in recent years (Sannicandro et al., 2024), the elements that characterize online assessment in higher education (Tatum, 2022; Sannicandro, 2023; Verhoef et al., 2021) as, for instance, how online assessments impact student satisfaction, stress levels, and performance, particularly in comparison to face-to-face assessment methods and academic integrity (Akimov, 2020; Marano et al., 2024; Holden et al., 2021; Andreou et al., 2021), each contributing to a deeper understanding of the challenges and opportunity (see Table 1). These aspects highlight the complexity of technological integration and the importance of a strategic approach that considers the diversity in students' digital skills and access conditions. In addition, they underscore the need to rethink learning and assessment processes with the aim of creating a more inclusive, transparent, and equitable educational system for all stakeholders involved.

The objective of the research, involving students and faculty, is to promote a culture of academic integrity, particularly in the context of distance learning, and conduct an exploratory survey to map the guidelines and good practices developed in the university context to encourage academic integrity (Sannicandro et al., 2023; 2024).

This paper presents the analysis of a semi-structured questionnaire aimed at students enrolled in blended or online learning degree programs to investigate their perceptions and awareness of academic integrity and e-dishonesty and evaluate the extent of cheating.

Section 2 outlines the research methods and provides the stages undertaken during the study. The analysis and summary of the key findings of the part of the research focused on data collected with a survey aimed at students are detailed in the subsequent Section 3. The final section discusses the study's first results and future research actions.

2. Materials and Methods

The study forms part of a larger research project that engaged the process of assessment online learning in distance university courses (Sannicandro, 2023; Sannicandro et al., 2024). A mixed-methods approach was implemented (Creswell, 2014, p. 341; Clark & Creswell, 2008) to analyze diverse viewpoints using quantitative and qualitative research tools such as semi-structured questionnaires and focus groups for students and teachers. We aim to integrate the insights of individuals and institutions, including examining best practices and sharing digital resources concerning academic integrity (Sannicandro et al., 2024).

The mixed-methods sequential explanatory design provides that "the researcher initially collects and analyses the quantitative data. The qualitative data are collected and analysed subsequently, and serve to elucidate or expand upon the findings of the preceding quantitative phase [...]. This approach is justified by the rationale that the quantitative data and subsequent analysis provide a general understanding of the research problem, while the qualitative data and subsequent

analysis refine and explain those statistical results by exploring participants' views in more depth" (Ivankova et al., 2009, p. 5).

Table 1 - Key themes in research on online assessment in university contexts.

<i>Key themes in research on online assessment</i>	<i>Challenges and Opportunities</i>
Student Experience and Engagement	How online assessments affect student participation, motivation, and their overall learning experience, including accessibility concerns? Is crucial an investigation of innovative online assessment techniques that extend beyond the conventional format of examinations, including project based evaluations, peer assessments, and formative feedback, with the objective of enhancing student learning and engagement.
Technological Integration	The role of digital tools in facilitating assessments, including the use of artificial intelligence (AI), proctoring systems, and learning management systems, is a topic of great importance in the field of education. Furthermore, it is essential to consider the ethical implications that arise alongside these novel developments.
Academic Integrity	Ensuring the integrity of assessments, particularly in remote and blended learning environments, where opportunities for misconduct might increase due to the lack of direct supervision, represents a significant challenge.
Pedagogical and Methodology Adaptation	A rethink of assessment strategies is required, with a view to aligning them with the learning objectives (also in a digital format). This should ensure that they accurately measure student outcomes. To this end, it would be beneficial to explore innovative online assessment techniques that go beyond traditional exams. These could include project-based assessment, peer assessments and formative feedback. The intention is to enhance student learning and engagement.
Impact on Teaching Practices (and Faculty Development)	The transition to digital assessment has an impact on teaching methodologies, feedback practices and the overall structure of courses. This raises the question of the skills and training required for educators to design and implement online assessments effectively, as well as how institutions can support their staff in adapting to digital assessment platforms.
Fairness and Inclusivity	The objective is to guarantee that online assessments are equitable for all students, taking into account their diverse needs, backgrounds, and potential digital divides. Accessibility and inclusion are key considerations in the development of online assessments. It is imperative to guarantee that online assessments are accessible to all students, including those with disabilities or restricted access to technology.
Data Security and Privacy	Managing the ethical and legal considerations of storing and handling student data in online environments, with attention to privacy protections.

The research is structured into two primary phases. The first phase involved a thorough analysis of existing guidelines, frameworks, and digital resources aimed at promoting academic integrity within the university context. These resources were identified from established organizations, including Teaching and Learning Centers and Centers for Academic Integrity (Sannicandro et al., 2024).

In the second phase, questionnaires and focus groups are administered to students and teachers. In particular, in this paper we focus on some results of a questionnaire administered to students of blended courses, as mentioned above.

The research questions that informed the construction of the questionnaire were as follows: *What constitutes academic integrity or dishonesty in students' experiences [RQ1]? What types of*

behavior do students consider risky or academic misconduct [RQ2]? What resources and activities can be developed in online and blended university courses to promote a culture of academic integrity [RQ3]?

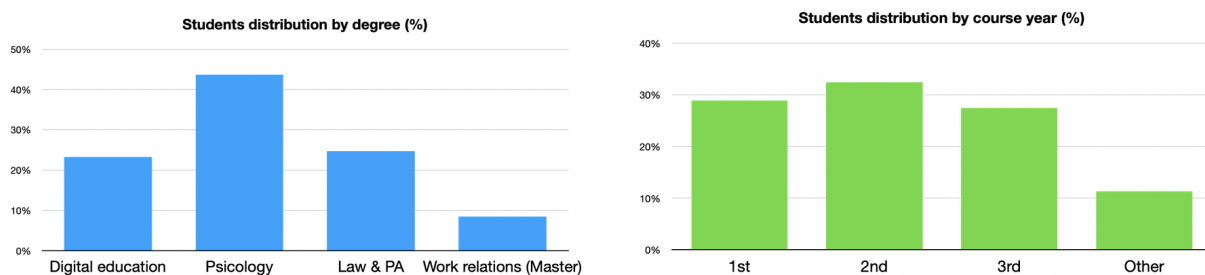
To answer these questions, it has been essential to investigate students' awareness of integrity and misconduct issues and develop skills (academic literacy) to promote a culture of academic integrity (Festas et al., 2022). Students should be viewed as active participants in the learning processes that occur in online environments rather than mere consumers (Lowyck et al., 2004). The aim is to cultivate and strengthen a culture of academic integrity, particularly within the framework of online university courses; the hypothesis suggests that engaging both educators and students in the development of training initiatives and digital resources is crucial for their success (Sannicandro et al., 2024). The questionnaire incorporated closed and open-ended questions, with sections dedicated to personal data, academic integrity and academic misconduct, academic integrity, and assessment practices. For the development of some sections we consulted and integrated questions from validated scales and used in the university context (Bašić et al., 2019; Erguvan, 2022) also with to aim to quantify students' attitudes and experiences related to academic dishonesty, plagiarism, to promote academic integrity. The opened questions (that will be analyzed in the following phases of the research) facilitated a deeper exploration of students' views on what constitutes academic integrity, perceived risks of misconduct, and the types of resources that can foster a culture of integrity in their educational settings.

3. Results

We administered the questionnaire to 2,792 students enrolled in the blended degree courses at the University of Modena and Reggio Emilia (Italy). 210 students (8%) replied to the survey and 146 complete answers (5%) were registered.

77% of students were women, and 67% were workers. The median age is 26, within a range between 19-70. 58% of interviewers declared to be at the first university experience, 17% had a previous degree, and 25% dropped a previous course.

Figures 1 and 2 depict the students' distribution by degree and course year. We can observe a high percentage of students from Psychology degree course (44%) in which there are the most numerous enrollments. A similar percentage of students enrolled in Digital Education and Legal Services in Business and Public Administration (respectively, 23% and 25%) is recorded among respondents, together with a low amount of students from master's degree courses in Work Relations (9%).



Figures 1 and 2 - Students' distribution by degree (*left*) and course year (*right*).

Replying to the first research question (RQ1) on the meaning that students attribute to academic integrity or dishonesty, we can see in Figure 3 that they have chosen *honesty*, *fairness*, and *responsibility* as the main words in the ICAI framework (2021) as the values to speak about academic integrity.



Figure 3 - Students' opinion on values of academic integrity (made using Flourish.studio).

In addition, Figure 4 shows students' agreement level with a list of sentences on their experiences with academic integrity or dishonesty. They mainly agreed with sentences 1, 3-6. These statements deal with:

- the ability of students to identify what constitutes misconduct (1);
- the way in which academic misconduct undermines the value of the work of other members of the community (3) and students' academic reputation (4);
- the feeling of guilt when using sources in assessments without citing them (5);
- the feeling of anger when others use students' own results in their work (6).

Students have a lower level of agreement on statements 2, 8, and 9, respectively, related to the commitment in learning more about behaviors associated with academic misconduct, the role of technologies in preventing academic misconduct phenomena, and the use of a system for checking academic misconduct in assessments.

Students express the most disagreement with sentence 7, which challenges the common assumption that academic misconduct is a significant problem in online courses and less so in face-to-face courses.



Figure 4 - Academic integrity or dishonesty in students' experiences (made using Flourish.studio).

Moving to RQ2, Table 2 shows the actions students considered more risky during exams. The higher percentage is collected by falsifying research data (64%), plagiarizing examinations (61%), and using unauthorized AI tools (57%). Options related to sharing the exam content (27%), using others' materials (21%), or diffusing their own ones (12%) gather significantly lower percentages. Self-plagiarism (7%) and using others' words when there are few ways to describe a concept (4%) seem to be the misconduct actions that least concern students during exams.

Table 2 - Students' opinions on more severe actions of misconduct during exams (max 3 answers).

More severe actions of misconduct during exams	%
falsify research data	64%
plagiarize examination	61%
use not allowed AI tools	57%
share exam content	27%
use colleagues' materials	21%
share my materials with others	12%
self-plagiarize	7%
use others' words when there are few ways to describe a concept	4%

Finally, for RQ3, Figure 5 presents the resources and strategies to promote a culture of academic integrity in students' opinions. Among the favorite tools by students, we find software they can use to check the integrity of their works (46%), guidelines customized for each course (43%), and training on the ethical use of AI tools (41%). Disciplinary sanctions (19%) or training courses on the topics (16%) are the less chosen option.

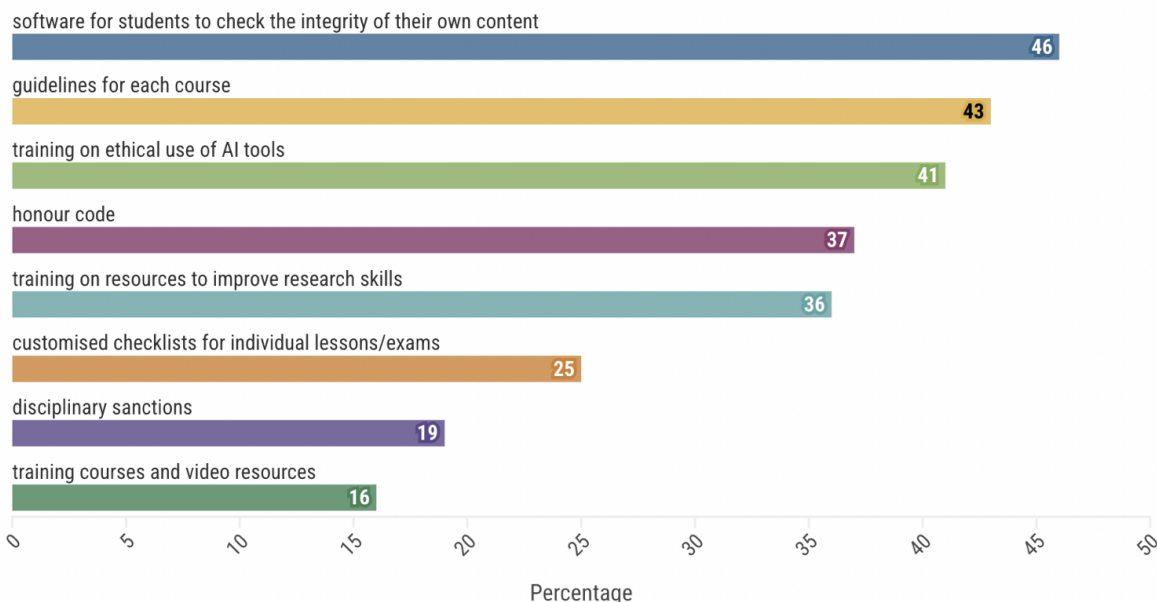


Figure 5 - Resources and activities to promote a culture of academic integrity, max 3 answers (made using Flourish.studio).

In addition, students recognized readiness in the test subjects, the possibility of comparison with instructors and other students, the lack of pressure to obtain good grades and plagiarism by other students as the most relevant actions to promote integrity. Punishment, indicated as relevant by about half of the respondents, is among the last positions in the list (Table 3).

Table 3 - Students' opinion on relevant aspects to promote integrity (the percentage has been obtained by summing the options 4 and 5 in a Likert scale where 5 means "totally relevant").

Elements to promote integrity	%
Knowledge of the test subject	90%
Comparison with teachers and students	80%
No pressure for good grade	76%
No plagiarism by other students	72%
Time not limited	59%
Monitoring tools by teachers	57%
In site assessment	45%
Punishment	44%
Online assessment	35%

4. Discussion and future research

The analysis of the questionnaire administered to students enrolled in blended degree programs revealed several key findings. Students predominantly associate honesty, fairness, and responsibility with academic integrity. Additionally, they link academic integrity to a sense of community, reputation, and emotional responses such as guilt or anger. In many cases, students do not perceive online assessments or digital technologies as primary causes of misconduct. Instead, they mainly consider academic misconduct during exams, including actions like falsifying research data, plagiarizing during assessments, and using AI tools without permission. According to a substantial number of students, knowledge exchange and dialogue with instructors and peers can foster a culture of integrity, while punitive measures are not regarded as the most effective means of reducing misconduct. To enhance academic integrity, students prefer automated tools to independently verify their work, clear coursespecific guidelines, and training on the ethical use of AI technologies.

These findings align with several key themes highlighted in the broader literature, which underscore both the challenges and opportunities of online and hybrid assessment, particularly when considering recent initiatives by international organizations and higher education institutions (e.g., ICAI, ENAI) (Foltýnek & Glendinning, 2024). We understand that one of the most pressing concerns relates to academic integrity, which has become increasingly significant as the prevalence of remote and hybrid assessment practices grows. The integration of digital platforms in blended learning – combining both online and face-to-face components – amplifies the risk of unauthorized access to resources, raising critical issues of academic misconduct, including plagiarism. Addressing these concerns requires the development of innovative monitoring strategies that safeguard the integrity of assessments in both contexts, while simultaneously promoting trust between students and faculty in hybrid learning environments. These solutions must also address the needs and expectations of both students and instructors.

Another critical consideration is the integration of digital technologies in assessment practices. In the context of blended learning, the use of AI and other digital tools has enabled greater automation in the assessment process, yet it also raises ethical concerns regarding fairness and the accuracy of assessment across various formats (Moorhouse et al., 2023; Saúde et al., 2024). It is crucial to critically assess how these technologies are implemented, ensuring that they enhance the assessment process in both online and face-to-face settings without compromising the reliability and validity of outcomes. These evolving educational models also demand that educators reconsider their approaches to feedback and course design, ensuring alignment with the unique demands of blended learning environments. From the students' perspective, there is an expectation for more resources dedicated to educating them on behaviors associated with academic misconduct, as well as the availability of tools to detect potential errors in their work.

Constructively, many students suggest that an approach centered on dialogue and collaboration with instructors and peers may prove more effective in promoting ethical behavior than punitive policies. Furthermore, students express a desire for autonomous tools to check their work, clearer course-specific guidelines, and dedicated training on the ethical use of AI technologies.

The transition towards online assessments in blended learning environments has also had a significant effect on students' learning experiences. It is imperative to guarantee equitable access to learning resources and to achieve a seamless integration of online and offline components in order to address the diverse needs of students in hybrid learning settings. It is also of great importance to consider the ethical and legal implications, particularly in relation to data security and privacy. The growing reliance on digital platforms for both online and face-to-face assessments requires that institutions manage large volumes of sensitive student data, raising concerns about potential misuse and the necessity for robust data protection measures. The ongoing challenge of maintaining academic integrity while ensuring an inclusive and effective learning experience demands continued research, with direct implications on awareness and organizational culture within universities (Bjelobaba et al., 2023).

Using a mixed methods research design, future studies will actively engage lecturers through a questionnaire to explore how their practices and perceptions of academic integrity evolve in blended learning environments. Building on student findings that emphasize the importance of dialogue and collaboration over punitive measures, the research will explore how lecturers use digital tools, such as AI, to promote academic responsibility and ensure transparency in assessments. The study will also focus on the development of guidelines and resources within courses to support both formative and summative online assessment (Figure 6).

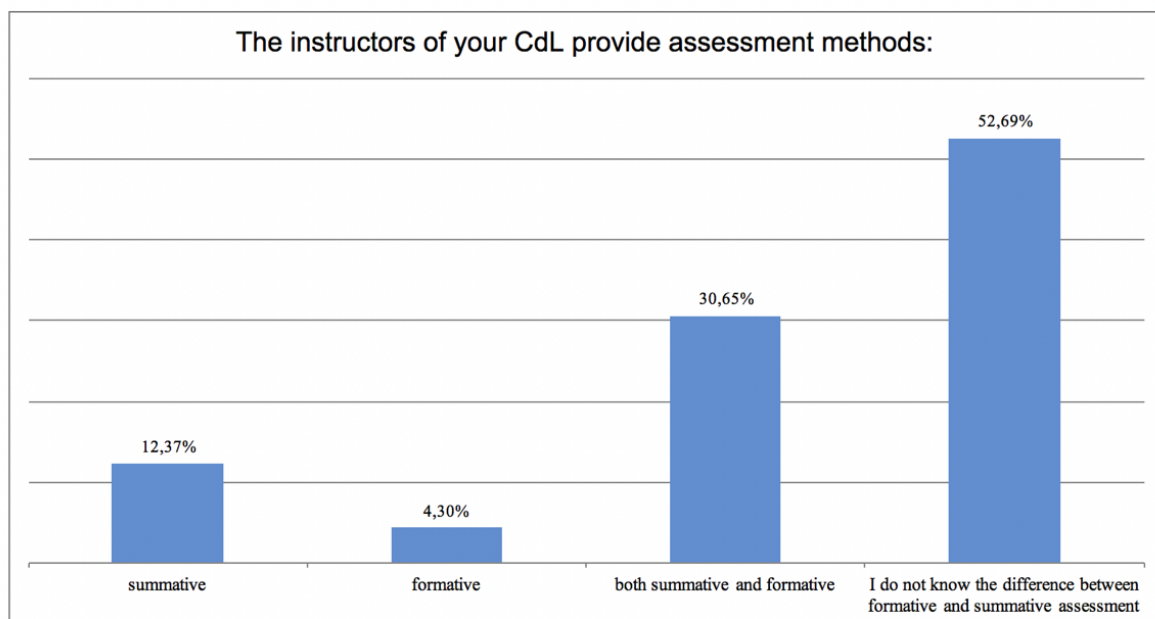


Figure 6 - Assessment methods provided by the instructors according to students.

Research actions will include the analysis of the methods employed by instructors to ensure the fairness of assessments, while maintaining a balance between oversight and mutual trust, and fostering ethical awareness among students. Another aim will be to enhance the efficacy of online assessments, both formative and summative. For example, a qualitative analysis of students' motivations and their assessment preferences could be conducted through content analysis, thereby enabling the identification of recurring themes and opinions that are not captured by closed-ended questions. Responses to open ended questions regarding assessment mode preferences may yield particular student expectations, such as a desire for more interaction with lecturers or the necessity for adaptations due to technological issues.

Authors' contribution

This paper describes the whole research partially introduced in the conference abstract "Academic Integrity and E-Dishonesty in Online Assessment: a student perspective" presented at the Italian SYmposium on Digital Education (ISYDE) 2024.

According to CRediT system *Katia Sannicandro* (corresponding author): Conceptualization, Methodology, Validation, Formal analysis, Investigation, Writing-Review & Editing; *Annamaria De Santis*: Formal analysis, Visualization, Data Curation; *Claudia Bellini*: Resources; *Tommaso Minerva*: Supervision.

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