



ISYDE2023

Italian Symposium on
DIGITAL EDUCATION

Reggio Emilia, 13 - 15 September 2023

Innovating Teaching & Learning.
Inclusion and Wellbeing for the Data Society

Tommaso MINERVA & Annamaria DE SANTIS (Eds.)

Conference PROCEEDINGS



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DIGITAL EDUCATION
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Edited by

T. Minerva, A. De Santis
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Preface

ISYDE, *Italian Symposium on Digital Education*, is the yearly conference organized by the *Italian e-Learning Society* (SIE-L, <https://www.sie-l.it/>) in line with previous conferences (EMEMITALIA and SIEL), whose organization was interrupted by the COVID-19 pandemic.

As it resumes its conference activities, SIE-L aims to broaden the focus from *e-Learning* and media education to *Digital Education* in a wider meaning as a concern emerging from recent years' experiences.

ISYDE addresses and debates the major transformations induced by technologies in the processes of training, learning, continuing education and knowledge construction as well as citizenship and interpersonal relations.

The 2023 edition focused on “Innovating Teaching & Learning. Inclusion and Wellbeing for the Data Society”.

As always alongside the pinning down of the main thread, the conference served as a meeting point and sounding board for the research, experiences, developments and technological applications that are fostering development in the following significant, though not exhaustive, subject areas: AI in Education; Digital Citizenship; Blended Learning; Career Development and Training; Collaboration Projects and Networks; Computer Supported Collaboration; Digital Inclusion; Data Literacy & Education; Digital Literacy; Digital mediated diseases and behavioral risks; Digital Wellness; Distance Learning in Times of Crisis; e-Content Management and Development; Educational Software & Serious Games; e-Learning; Emerging Technologies in Education; Experiences in Education and Research; Faculty Development and Higher Education; Gaming and Gamification in Education; Learning Spaces; Pedagogical Innovations in Education; Post-Digital Education; Third Spaces Literacies; Trends and Issues in Education.

Topics refer to application areas, including: University; School; Continuing Education; Public Administration; Health Care; Society; Culture; Technology Use, Integration, and Development; Business.

The conference was held at the University of Modena and Reggio Emilia (Italy) from September 13 to 15, 2023.

Participants presented more than 50 contributions in ten Sessions that we merged into four Sections in the proceedings:

- Artificial Intelligence and Analytics (7);
- Design (5);
- Games, Social Networks, and Virtual/Augmented Reality (8);
- Scenarios, Experiences, and Research Reports (12).

The conference, as also shown in the Plenary Sessions, prepared the ground for the process of innovation of higher and lifelong education toward the design and establishment of nationwide *Digital Education Hubs*, which represent the new challenge faced by Italian universities.

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Academic integrity in online assessment: towards the development of a proposal for guidelines and education resources

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Abstract

In recent years, the use of digital platforms, applications and tools for assessing learning has increased significantly, in part due to the impact of the COVID-19 pandemic. The availability of digital resources allows for the creation of assessment tests that can be administered remotely as well as face-to-face. Furthermore, monitoring tools such as e-proctoring systems, which are particularly well-suited for summative assessments, can be employed in both scenarios. However, merely relying on different technology solutions cannot ensure the establishment of a “safe” assessment setting that is suitable for maintaining academic integrity and ensuring assessment quality. In the context of online assessment, faculty members’ main needs include the need to prevent student plagiarism and the possibility of developing an authentic culture of academic integrity. Against this complex background, an analysis was conducted on selected guidelines and frameworks promoting an authentic culture of academic integrity in domestic and international academic contexts. The selected guidelines and frameworks were proposed by organizations such as the Teaching and Learning Centres and/or the Centres for Academic Integrity. The research was conducted in two phases. The first phase involved an analysis and mapping of guidelines, frameworks, and digital resources designed within the university context to promote academic integrity. The second phase involved the development of an initial proposal for guidelines based on the resources found and analyzed in the previous phase. These guidelines were to be applied in blended or distance learning degree programs and will be defined after an analysis is conducted on student and teacher perceptions and needs regarding online assessment and academic integrity. A summary of the results of the first phase is presented in this paper.

Keywords: Online Assessment, Academic Integrity, Academic Dishonesty, Guidelines, Digital Technology.

1. Introduction

The utilization of digital platforms, applications, and tools for the assessment of learning has significantly increased in both on-campus and online university contexts. This growth is largely attributable to the proliferation of distance learning pathways, such as MOOCs and online degree programs, and in part to the experiences developed during the COVID-19 emergency (Chiang et al., 2022; Holden et al., 2021; St-Onge et al., 2022). Consequently, research on topics such as digital assessment tools, peer assessment, and online feedback has become increasingly relevant (Sannicandro, 2023). The online assessment of learning is defined as “the use of digital tools to assess or measure learning outcomes, both face-to-face and in distance-learning environments” (Bartley, 2005, p. 6). In the various contexts of online learning, assessment “is created, written, delivered and marked with technology, typically a specialist assessment platform” (Gibson, n.d., p. 1). The availability of digital resources allows for the creation of assessment tests that can be administered remotely as well as face-to-face. The landscape of online assessment has undergone significant changes and is now widely acknowledged as a permanent practice (Jha, 2021). It provides an ecosystem for sharing knowledge and learning through collaboration, comparison, and interaction, utilizing both formative and summative strategies for assessment (Conrad & Openo, 2018; Sannicandro, 2023). The relationship between assessment, technologies, and digital resources has the

potential to transform teaching practices and redefine assessment in various ways. Recent studies have identified five essential design considerations for online assessments: “ensuring academic integrity, providing quality feedback, supporting a positive learning experience for students, maintaining the integrity of student information, and ensuring equal opportunities for all students to complete the assessment successfully” (Huber et al., 2024, p. 3). Among the principal needs identified by instructors in the context of online assessments is the necessity to prevent plagiarism (and related phenomena) among learners, as well as the potential for developing an authentic culture of academic integrity (Robinson et al., 2017; Tatum, 2022). Indeed, key themes in research on online assessment in university contexts include studies and research that have focused on academic integrity and/or academic misconduct (Sannicandro, 2023).

It is noteworthy that the topic of academic integrity and academic dishonesty in studies on online assessment is a constant (Garg et al., 2022; Surahman et al., 2022; Holden et al., 2022; Hartnett et al., 2023). It is inevitable that these aspects will impact the attitudes and opinions associated with online assessment from instructors and students (Bahar et al., 2018; St-Onge et al., 2022). Such attitudes and opinions can affect the quality of online assessment and the correct performance of testing in a positive or negative manner. In such instances, monitoring tools, such as e-proctoring systems (particularly for summative assessment), can be used. Nevertheless, the deployment of distinct technological solutions alone cannot guarantee the creation of a secure assessment environment that can ensure academic integrity and the quality of the assessment process. It is of paramount importance for teachers to establish a reliable relationship with their students. Verifying their identity and authenticating the authorship of their academic work is a crucial aspect in online assessment (Amihud et al., 2017).

Academic dishonesty can manifest in “a number of ways, including the use of unauthorized materials, facilitation (helping others to engage in cheating), falsification (misrepresentation of self), and plagiarism (claiming another’s work as one’s own)” (Holden et al., 2021, p. 2). In some cases, it can even involve the use of ghostwriters (Hill et al., 2021). There is no consensus in the literature on whether cheating is more frequent in online or face-to-face assessments (Reedy et al., 2021). These issues are also common in traditional learning contexts but may sometimes be amplified in the online experience (Akimov, 2020). The quantity and intricacy of these definitions demonstrate how academic conduct encompasses numerous, frequently interrelated, elements. For example, when discussing research on the assessment of learning in university settings, including both online and face-to-face contexts, a number of critical issues arise, such as academic dishonesty, contract cheating, the use of unauthorized resources, fabrication and collusion. These issues are in addition to the previously mentioned facilitation, plagiarism and ghost-writing. The term e-dishonesty has been employed to describe behaviors that deviate from academic integrity in the online environment, prompting the consideration of novel issues that may not have been addressed in previous studies (Holden et al., 2021). Glossaries have also been compiled on these topics, with the objective of differentiating and clarifying the various phenomena.

The assessment approach developed in the training courses (as control and vigilance) often relies on retrospective inspection of student-generated content to identify and address instances of plagiarism, cheating, and other academic dishonesty. Alternatively, anti-plagiarism software such as Turnitin, Originality.AI or iThenticate may be used to check for plagiarism in articles, theses and other documents. An alternative approach, which emphasizes development, collaboration, and reflection, should be embraced. This approach goes beyond mere oversight and should be embraced collaboratively by both educators and learners from the outset of training activities. For instance, as illustrated in forthcoming sections, the creation of guidelines, models, and best practices can promote a culture of academic integrity and transversal skills (critical and innovative thinking etc.). Although there has been an increase in the number of activities aimed at training on academic integrity issues, such as online courses, guidelines, and video-tutorials, these actions do not directly involve lecturers and students in the design and development process. A study conducted at the University of Auckland (Stephens et al., 2021) investigated the effects of introducing mandatory Academic Integrity Courses (AIC). The study revealed that students who had completed the Academic Integrity Course (AIC) exhibited lower levels of understanding, support, and effectiveness regarding the University’s academic integrity policies (Stephens et al., 2021). Furthermore, the study demonstrated that the levels

of peer disapproval of academic misconduct were statistically equivalent between the two groups, while the levels of peer engagement in academic misconduct were significantly higher among those who had completed the AIC (Stephens et al., 2021, p. 7). It is understandable that students may experience anxiety and stress during assessments. However, adequate preparation can alleviate these feelings. The study by Sanchez-Cabrero and colleagues (2021) revealed that stress levels appear to decline rapidly once the exam begins and then again once it is over. The study found that “most students consider that there is little difference between on-site and online evaluation, and both prompt the same amount of stress, if not less for remote exams” (Sanchez-Cabrero et al., 2021, p. 11). Holden and colleagues (2002) identified a number of potential causes of academic dishonesty, including individual and psychological factors, institutional factors, and factors related to test delivery instruments.

The factors influencing academic dishonesty vary according to the specific type of infraction. It is therefore beneficial to distinguish between instances of spontaneous cheating, which may be driven by panic, and those that are the result of forethought and deliberate preparation, which we term “planned cheating” (Dendir & Maxwell, 2020, p.2). For this reason, we have decided to focus more on the concept of academic integrity, which is defined as the commitment to uphold six fundamental values: honesty, trust, fairness, respect, responsibility, and courage (International Center for Academic Integrity, 2021, p. 4). It is assumed that mere literacy and training on these topics may not be sufficient to affect the elements that characterize the complex construct of academic integrity and the need to demonstrate such values (see Table 1). Focusing the analysis and development of activities on these principles allows for a positive approach to the evaluation process and the concept of academic integrity (the positive expression of integrity is often overlooked). It is evident that prior to examining the topic of academic integrity, researchers and educators have primarily concentrated on the issue of plagiarism and the methods of its prevention or detection.

Table 1 - Six fundamental values proposed by International Center for Academic Integrity (ICAI, 2021, p. 5-10, our summary).

| <i>Ways to demonstrate honesty</i> | <i>Ways to demonstrate trust</i> | <i>Ways to demonstrate fairness</i> | <i>Ways to demonstrate respect</i> | <i>Ways to demonstrate responsibility</i> | <i>Ways to demonstrate courage</i> |
|--|---|--|---|---|--|
| <ul style="list-style-type: none"> · Be truthful · Give credit to the owner of the work · Keep promises · Provide factual evidence · Aspire to objectivity, consider all sides and one’s own potential preconceptions | <ul style="list-style-type: none"> · Clearly state expectations and follow through · Promote transparency in values, processes, and outcomes · Trust others · Give credence · Encourage mutual understanding · Act with genuineness | <ul style="list-style-type: none"> · Apply rules and policies consistently · Engage with others equitably · Keep an open-mind · Be objective · Take responsibility for your own actions | <ul style="list-style-type: none"> · Practice active listening · Receive feedback willingly · Accept that others’ thoughts and ideas have validity · Show empathy · Seek open communication · Affirm others and accept differences · Recognize the consequences of our words and actions on others | <ul style="list-style-type: none"> · Hold yourself accountable for your actions · Engage with others in difficult conversations, even when silence might be easier · Know and follow institutional rules and conduct codes · Create, understand, and respect personal boundaries · Follow through with tasks and expectations · Model good behavior | <ul style="list-style-type: none"> · Be brave even when others might not · Take a stand to address a wrongdoing and support others doing the same · Endure discomfort for something you believe in · Be undaunted in defending integrity · Be willing to take risk and risk failure |

It is important to note that punishment and prevention are distinct concepts. “It is a mistake to believe that threats of the former (if only severe enough) equates with the latter” (Stephens et al., 2021, p. 3). In many cases, countering these phenomena with surveillance strategies alone (Verhoef et al., 2021) is not an effective option. In digital learning environments, many of the described critical aspects can be

overcome. In blended or distance learning degree programs, it is possible to have an impact on the phenomena of academic dishonesty (Abubakar et al., 2022) through detailed guidelines, adequate training, and test practice sessions to familiarize students with how online assessment works. This is not only from the perspective of control. The proposal of guidelines, including at the institutional level, shared with faculty, students, and other professionals appears capable of significantly impacting the processes under examination (academic integrity, cheating, e-dishonesty). In the context of online assessment, it is important to recognize the unique needs of both instructors and learners. While there are certain objectives that can affect the assessment experience for both parties, such as preventing plagiarism and promoting academic integrity, learners expect to receive fair and impartial treatment and recognition during assessment. This aligns with the need of instructors and universities to ensure transparent and collaborative assessment. It is important to recognize that students may face challenges and areas for improvement when it comes to online assessments. These assessments require a high level of digital proficiency, which can be difficult for some students. To ensure academic integrity and prevent academic misconduct, it is important for students to prepare thoroughly for exams and have a clear understanding of how online assessments function (Abubakar et al., 2022). In order to improve academic integrity, it is strategic to focus on training and developing skills related to the culture of academic integrity, rather than only intervening on critical issues related to academic misconduct. The question then arises as to who should be responsible for these training and development processes.

Against this complex background, an analysis was conducted on selected guidelines and frameworks promoting an authentic culture of academic integrity in international academic contexts. The selected guidelines and frameworks were proposed by organizations such as the Teaching and Learning Centres and/or the Centres for Academic Integrity. Section 2 presents the research methods and outlines the stages of the study. The main results of the analysis of good practices are detailed in the subsequent Section 3. The concluding section presents a summary of the key findings of the research and offers insights into potential future developments and relevant implications for academic integrity processes.

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). A mixed-methods approach was adopted (Creswell, 2014, p. 341) that:

- plans to compare different perspectives using both quantitative and qualitative data. This will be achieved through the administration of semi-structured questionnaires to students and teachers, as well as conducting focus group;
- aims to incorporate the perspectives of individuals and institutions, such as best practice analysis and digital asset sharing on academic integrity;
- develops a more comprehensive understanding of the necessary changes, combining qualitative and quantitative data. This can be achieved through the use of semi-structured questionnaires, focus group and triangulation of data collected from the course delivery platform.

The research involved the following phases:

1. *First phase*: analysis and mapping of guidelines, frameworks and digital resources developed in the university context to promote academic integrity. The selected guidelines and frameworks were proposed by organizations such as the Teaching and Learning Centers and/or the Centers for Academic Integrity;
2. *Second phase*: development of an initial proposal for guidelines based on the resources found and analyzed in the previous phase, to be applied in blended or distance learning degree programs, preceded by an analysis of student and teacher perceptions and needs regarding online assessment and academic integrity.

A summary of the results of the first phase is presented in this document. This contribution focuses on the analysis conducted in the first phase to develop guidelines for four mixed-mode and/or

predominantly distance learning courses that three Bachelor's degree courses and one Master's degree course, with 150 instructors and tutors and over 4000 students enrolled in the courses hosted on the distance learning portal for the academic year 2023-2024.

To develop and implement guidelines, training, and honor codes, universities must reduce the cheating culture, particularly, in online courses (Holden et al., 2021), and develop policies and procedures for the promotion of a culture of academic integrity. As anticipated, the analysis of selected guidelines and frameworks promoting an authentic culture of academic integrity in international academic contexts has been developed and which in many cases directly involve the design of the assessment. Rethinking evaluation involves both instructors (we think of the training necessary to develop evaluation redesign processes) and students (from a student-centered perspective), for this reason the research includes several phases and the use of different data collection tools (the submission of semi-structured questionnaires addressed to students is currently underway as part of the second phase). The objective is to develop and enhance a culture of academic integrity, particularly in the context of distance university courses. This requires a collaborative effort at the macro-planning level. The hypothesis is that involving lecturers and students in the design of training activities and digital resources is necessary for their effectiveness. This is supported by research and studies analyzed in the first part of the contribution. Furthermore, it is important to note that isolated activities in individual courses or lectures may not have a significant impact on students' competences and perceptions in the long term. This is especially true when considering cases of assignment cheating, test cheating, or exam cheating (Dendir et al., 2020; Stephens et al., 2021). Therefore, it is useful to inquire about the resources and models that have been developed in similar experiences, such as degree courses, distance learning, instructional design, and online assessment. Additionally, it is important to consider the strategies, guidelines, or checklists that have been employed. The first step is to create a map of resources to be integrated into a blended portal (LMS) (for summary reasons, not all resources and systems analyzed can be presented in detail).

However, a summary of the resources relevant to our study and subsequent research phases will be offered. In addition, at this stage we have focused more attention on guidelines and checklists. In other contributions, we will describe the research activities conducted to develop guidelines and checklists for academic integrity. These guidelines and checklists will be shared with students and lecturers of identified courses of study in the second phase.

3. Results

The focus of educational research is shifting, necessarily, "towards an approach that is preventative, educative and positive in promoting student success" (Center for Teaching and Learning, UC Berkeley). As indicated we conducted an analysis of some of the guidelines and frameworks proposed in the academic context and internationally (e.g., by the Teaching and Learning Center and Center for Academic Integrity) used to promote the dissemination of an authentic culture of academic integrity and digital resources related to these activities. The use of digital resources and a well-designed evaluation process can enhance the development of skills and competencies related to academic integrity. This can be achieved by adopting a sharing-based approach (Sannicandro, 2023), rather than relying solely on invigilation or online proctoring systems. Developing an alliance between different professional figures is crucial in this process. This involves not only instructors and students but also instructional designers, tutors, and other professionals.

In our preliminary analysis, we identified several levels of integration of resources dedicated to academic integrity in the university context. These resources include guidelines, regulations, and software, among others. We classified these resources as follows:

Level 1 includes general indications on the rules for conducting examinations and conduct by the lecturer. Consequently, these resources are linked to individual teaching and not shared at the degree course level.

Level 2 comprises general indications on the conduct of examinations and conduct by a Department or Degree Course, which may therefore be shared and applied for a complete degree program or larger groups of courses, lecturers and students.

Level 3 involves the development of dedicated and articulated sections with different resources in the pages of the Teaching and Learning Centres of Universities, which are often linked to the areas of instructional design and assessment of study courses (regulations, teaching guidelines, digital resources that contribute to the construction of thematic sections on academic integrity policies). These interventions may therefore involve didactic, design and methodological aspects.

Level 4 refers to institutions and/or associations concerned with academic and research integrity that, in collaboration with universities and other bodies, develop policies and resources to foster and disseminate a culture of academic integrity.

With respect to the levels identified, we present some examples of institutions, non-profit organizations and/or universities (including through the Teaching and Learning Centres mentioned above) that have developed activities and sections dedicated to academic integrity, diversifying resources with respect to the recipients (teachers, researchers, students, designers). This aspect highlights the need to streamline processes in order to enhance flexibility in the integrity/conduct equation, prioritizing actions that focus on academic integrity over verification and punishment measures. This does not negate the value of levels 1 and 2, which remain instrumental in developing personalized teaching activities.

We will now analyze some case studies (as previously indicated, the key findings of our analysis will be highlighted).

A number of measures have been implemented in Canada with the aim of promoting academic integrity. One such measure is from the Council of Canadian Academies (CCA). In addition, individual institutions bear responsibility for promoting research integrity practices and monitoring infractions. Consequently, the interpretation of guidelines and policies may vary across disciplines and institutions. In response to this, a research integrity group was established, namely the Canadian Council for Research Integrity (CCRI). The CCRI's objective is to develop a unified, interdisciplinary strategy that engages all stakeholders in the research community, including those in the university context. To promote transparency and accountability, the CCRI provides training to address identified gaps in the system (Council of Canadian Academies, 2010). Two key gaps have been identified in the policy framework. Firstly, there is currently no system-wide approach to information management and research. Secondly, there is a shortage of education and training programs and materials, and no independent source of advice. In the Council of Canadian Academies' proposal, we find a reference to the values of honesty, fairness, trust, accountability, and openness, which contribute to the construction of a positive integrity environment based on promotion, prevention, and sanction (Council of Canadian Academies, 2010).

In the specific context of universities, we highlight the case of the University of Calgary and Brock University. The University of Calgary, through the Taylor Institute for Teaching and Learning, has developed a program based on Indigenous Principles of Academic Integrity. Canada differs from the United States in its approach to academic integrity and educational ethics (Eaton, 2022). Resources developed include student handbooks, videos and visual storytelling specifically focused on Indigenous academic integrity.

Brock University has developed teaching and design guidelines for faculty and other professionals. These include academic integrity workshops and guidelines for inclusion in course syllabi and academic integrity policies. For faculty, for example, it is suggested that course syllabi include (1) a statement of academic integrity, (2) clear and explicit assignment requirements, and (3) well-defined guidelines for group work and collaboration (Brock University, n.d.). As shown in Figure 1, a dedicated section can be structured and differentiated for both teachers and students. This allows resources to be customized and guides each user group to the most relevant materials. In addition, these sections serve as repositories for useful digital resources, often including common definitions and guidelines for academic integrity and related behaviours.

Among the other examples of institutions dealing with academic integrity at an international level, we find both the International Center for Academic Integrity (ICAI), which we have already mentioned in the first section when proposing the definition of academic integrity, and the European Network for Academic Integrity (ENAI). The ICAI, founded in 1992 by Professor Don McCabe, promotes academic integrity and ethical behavior. Its members include not only public institutions but also companies and agencies that are involved in these issues in various capacities.

The European Network for Academic Integrity (ENAI) is described as “an association gathering educational institutions and individuals interested in maintaining and promoting academic integrity” (ENAI, n.d.).

Relevant to our analysis are the numerous materials and sections made available by both institutions, which can serve as a starting point for developing further educational resources aimed at both faculty and students for the development of pathways dedicated to the culture of academic integrity. As emphasized earlier, the culture of academic integrity also involves the sharing of clear definitions of phenomena related to integrity. In this regard, ENAI has developed a Glossary for Academic Integrity comprising 212 terms (the complete document can be consulted on the website section).

Both institutions also have dedicated sections for educational resources in the university context. For example, they provide guidelines and useful documents for developing academic integrity policies, training modules, video resources, apps or checklists. Figure 2 shows an example of an application found in the “Educational Materials on Academic Integrity” section of ENAI, namely Seneca’s Integrity Matters application.

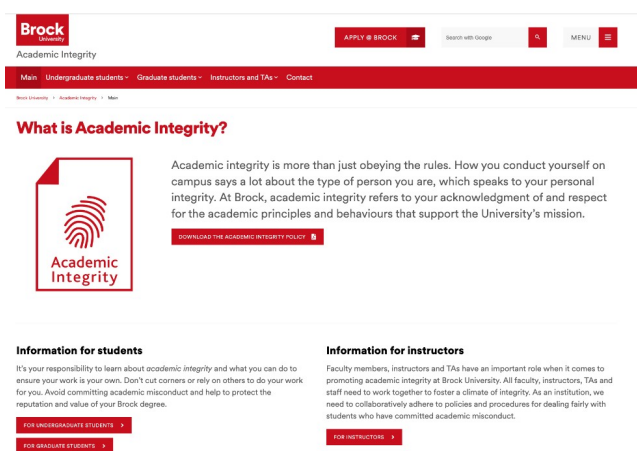


Figure 1 - Section Academic Integrity of the Brock University (<https://brocku.ca/academic-integrity/>).

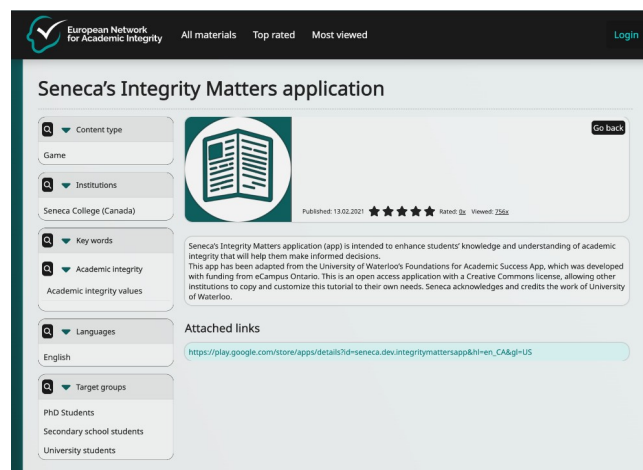


Figure 2 - Example of a resource in the section Educational Materials on Academic Integrity (ENAI - <https://www.academicintegrity.eu/materials/265>)

Below, we also present two examples of checklists: the *Academic Integrity Faculty Checklist* (Figure 3) (ICAI, n.d.) and the *Checklists for Supervisors* (Figure 4) (ENAI, 2022). Each focuses on different processes related not only to individual courses but, for example, to the type of assessment and resources used, highlighting the importance of direct engagement with students on these issues. Among the various available resources, we also find examples of honor codes or conduct that can be useful in providing students with examples of behaviors that constitute misconduct. We can also

identify resources dedicated to Institutional academic misconduct process examples. As highlighted in our analysis, university approaches to academic integrity also prioritize the management and verification of cases of dishonesty. Consequently we have identified some practices related to these phenomena, such as the Committee on Academic Misconduct of The Ohio State University. Figure 5 outlines the Five Easy Steps for Submitting Allegations of Academic Misconduct (The Ohio State University) that faculty can follow to report cases of misconduct.

As previously stated, the utilization of digital platforms, applications, and tools for the assessment of learning has significantly increased. In conclusion of this section, a brief reflection is offered on the digital resources employed for the verification of student-produced content. For the sake of brevity, a selection of examples is presented. A significant number of universities have long employed systems such as *Compilatio*, *Plagiarism Checker*, and *Turnitin* (e.g., Turnitin Originality, Turnitin's AI writing) for the detection of plagiarism or content generated with artificial intelligence tools. In considering digital resources, it is essential to take into account the diverse expectations and needs of both students and faculty (as well as any associated costs and functionalities of different systems). Given the potential risks associated with content generated by AI, it has become necessary to update regulations, guidelines, and other relevant documents with specific indications for these resources. Figure 6 presents an example developed by Southern Cross University regarding the consequences of using unauthorized systems.

The selection of these resources is far from straightforward as it involves considering many diverse factors. Numerous studies have investigated and compared different software solutions, particularly with the rise of AI tools (Foltýnek et al., 2020; Chaka, 2023; Cingillioglu, 2023). It requires choosing tools and resources that can seamlessly integrate with aspects of assessment, didactics, course design, while also aligning with university regulations and guidelines (if available and according to the levels we have assumed in our analysis). If it is true that students may engage in misconduct due to shortcomings in learning environments that can foster such behaviors, it is also true that all actions and strategies addressing issues like Cheating & Plagiarism have positive implications for student learning (Lang, 2013). The hypothesis is that intervening in instructional design, assessment, and even through the sharing and co-construction of tools and resources with students and instructors can impact the dissemination of a cultural real of academic integrity and the creation of shared institutional policies.

This is just one of the interests at stake, as the aim is also to influence assessment processes and student learning.

The Center for Teaching & Learning at the University of Berkeley suggests developing academic integrity through course design, identifying five potential aspects of a course designed to promote academic integrity and student learning (Center for Teaching & Learning, University of Berkeley, n.d.):

- foster students' intrinsic motivation;
- place emphasis on learning for mastery over performance;
- use frequent, low-stakes assessments;
- build student self-efficacy;
- prepare students for ethical considerations in the field/profession.

4. Conclusions

As highlighted, online assessment has accelerated its development and despite this growth and the emergence of new issues, the study of integrity and quality remains central. Efforts to promote academic integrity have become more prevalent in recent years. This involves encouraging a conscious understanding and active commitment to honesty in scholarly pursuits (Stephens et al., 2021). This initial analysis suggests that academic integrity is closely related to the need to make different teaching and assessment choices, especially in distance learning contexts. However, the challenges found in distance learning also apply to traditional courses, as the analyzed phenomena affect any assessment experience, not just online ones. Academic credibility in education is based on enduring principles of academic integrity, which remain constant despite changes in instructional methodologies, pedagogical theories, learning technologies, and delivery modalities (Amigud et al., 2017).

Academic Integrity Faculty Checklist


| | |
|---|---|
| <p>THE PROCESS</p> <ul style="list-style-type: none"> <input type="checkbox"/> I know what counts as cheating at my institution <input type="checkbox"/> I know where to report cases <input type="checkbox"/> I know the consequences for students <input type="checkbox"/> I know what to do if I catch dishonest work | <p>WITH NEW TECH</p> <ul style="list-style-type: none"> <input type="checkbox"/> I am aware of large group chat apps (GroupMe, Slack, WhatsApp) <input type="checkbox"/> I am aware of tutoring websites (CourseHero, Chegg, Quizlet, etc.) <input type="checkbox"/> I am aware of Paper Mills (schoolsucks.com, etc.) <input type="checkbox"/> I am aware that technology is evolving |
| <p>MY COURSE</p> <ul style="list-style-type: none"> <input type="checkbox"/> I address the importance of integrity beyond the classroom <input type="checkbox"/> I reference academic integrity often <input type="checkbox"/> My assignments line up with my course objectives and learning outcomes | <p>MY STUDENTS</p> <ul style="list-style-type: none"> <input type="checkbox"/> Know I value integrity in my course <input type="checkbox"/> Know that I value their work <input type="checkbox"/> Understand the purpose of my assignments <input type="checkbox"/> Take ownership of their learning |
| <p>MY ASSIGNMENTS</p> <ul style="list-style-type: none"> <input type="checkbox"/> I provide clear examples of what counts as cheating <input type="checkbox"/> I scaffold large assignments <input type="checkbox"/> I use multiple versions of exams |  |

Figure 3 - Academic Integrity Faculty Checklist (ICAI).



Checklists for Supervisors

Help your students write and publish with academic and research integrity

Before you start

- ▶ Use this checklist to help students complete theses and publish while upholding ethical standards and avoiding professional misconduct.
- ▶ The aim of this checklist is to assist supervisors in the supervision of master's and doctoral thesis writing and publishing in accordance with the norms and values of academic and research integrity.
- ▶ The checklist should help guide students to prepare their thesis and publications in line with the best research practices and avoid the risks of research misconduct and questionable research practices.
- ▶ The checklist is to be used from the start of the supervision and throughout the process of thesis preparation.
- ▶ Be aware that the list might need to be adapted to your own needs depending on the research field, your past experience, and institutional policies and rules.
- ▶ Depending on the division of responsibilities at the institutional level, it might not be you who are undertaking some of the items listed below, but you must nevertheless ensure that your student is properly guided.
- ▶ It could be beneficial to address some of these points in groups of two or more students.

General tips

- ▶ Be aware that you are a role model.
- ▶ Enculturate your students in your discipline and help them cross the bridge from being a student to researching.
- ▶ Encourage your students to interact with the research community and participate in academic events.
- ▶ Encourage your students to self-reflect and help them develop critical thinking.
- ▶ Try to motivate your students, and ask them about their work and how it is going.
- ▶ Show students that you are active and engaged in their thesis and publication work.
- ▶ Advise students to keep a research diary as a useful way to save all important information in one place.
- ▶ If a problem arises, try to solve it for the benefit of the student, without coercion.

Name:

General preparations for me as a supervisor

- I have read the institutional requirements relevant to thesis supervision and, if applicable, have taken the required courses in supervision.
- I know what the thesis quality requirements are at my institution.
- I know where to find information at my institution on supervision tasks and processes.
- I have knowledge of academic and research integrity, including regarding various breaches such as contract cheating, paper mills, gift authorship, plagiarism, and data management issues.

Academic and research integrity

- I have discussed with my student the values of academic and research integrity and why it is important to foster responsible academic and research practices.
- I have checked that the student has received appropriate training in academic and research integrity.
- We have agreed that the student's thesis and publication work will be done with respect for academic and research integrity.
- I have explained to my student the consequences of dishonesty in research (e.g., plagiarism, data fabrication, and other violations of academic ethics and procedures).
- If your students have not previously taken courses in academic and research integrity, you could direct them to institutional resources or reliable resources such as those at <https://www.academicintegrity.eu/wp/all-materials/>.
- I have guided my students on how to find all the relevant documents, such as the code of ethics.

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Figure 4 - Checklists for Supervisors (ENAI, 2022).

Five Easy Steps for Submitting Allegations of Academic Misconduct

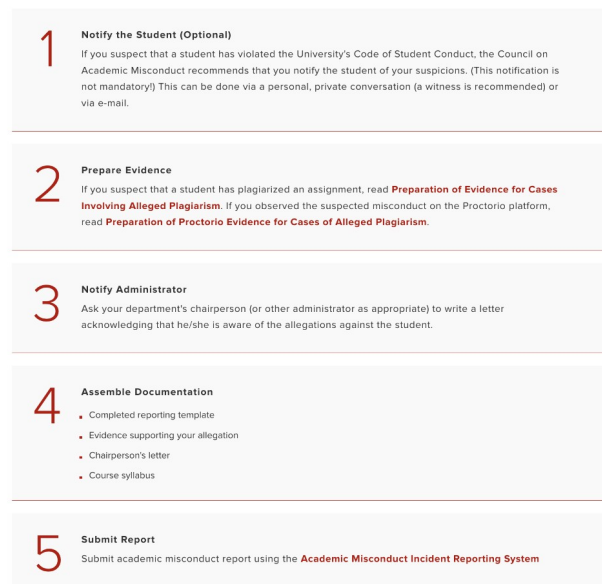


Figure 5 - Five Easy Steps for Submitting Allegations of Academic Misconduct - The Ohio State University (<https://oaa.osu.edu/academic-integrity-and-misconduct/faculty-obligations>).

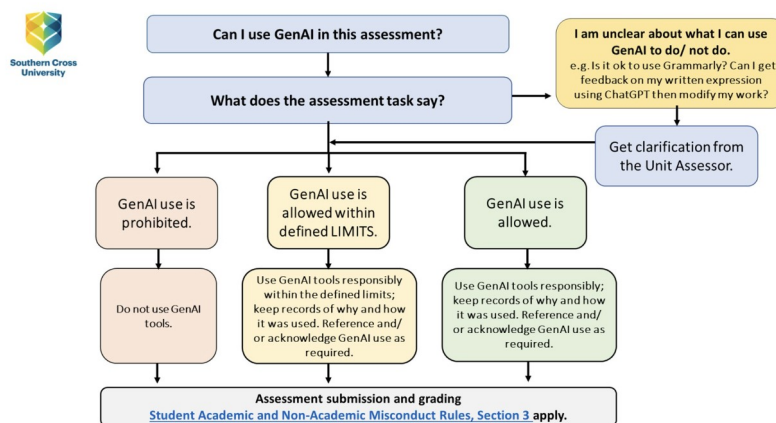


Figure 6 - Academic Integrity and GenAI Tools - Southern Cross University (<https://www.scu.edu.au/current-students/learning-zone/academic-integrity-and-turnitin/>).

The relationship between online assessment and academic integrity is predicted to become even more crucial, also due to the development and growth of Artificial Intelligence (AI) systems (Perkins, 2023) and online learning. The importance of these aspects cannot be delayed. The growing use of digital AI resources and tools (Zawacki-Richter et al., 2019; Chaka, 2023; Cingillioglu, 2023) has introduced new variables and challenges in the assessment process that cannot be addressed by supervisory tools alone. Therefore, it is necessary to develop diverse teaching and assessment strategies and methods. As a matter of academic literacy, training in these aspects will also have a (positive) impact on the development of students' skills. For future research, we can identify some useful points: issues of academic dishonesty are no longer just about online assessment; there is a need to positively rethink strategies to strengthen the culture of academic integrity (not only to sanction or intervene on summative assessment); digital tools and resources will have to integrate with regulations and guidelines and teaching and assessment choices (e.g. guidelines, checklists); developing a good culture of integrity also starts with confrontation with teachers and students through moments of co-design. Additionally, it is important to investigate the potential effects of Artificial Intelligence tools and their role in promoting integrity.

Authors' contributions

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

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