

The difficulty and implementation of online assessment in higher education

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ABSTRACT

The study goal is to look into the difficulties of online assessment in higher education and how it could be implemented. In order to achieve this goal, this study must evaluate the strengths and weaknesses of e-assessment activities based on a review of university experience. Cheating, technology, integrating learning goals, and student adherence to deliver evaluations were all recognized as major concerns in online examinations. The most efficient approach for reducing cheating was shown to be developing different responses for each student. It was also discovered that regulating academic integrity violations through an online presentation was a viable option. Integrating various assessment procedures, such as report submission with an online platform, aids in the reduction of cheating by allowing the examiner to confirm that the submitted work is the student's work.

Keywords: Academic Integrity Violations; Higher Education; Online Assessment

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1. Introduction

As a result of the Covid-19 outbreak, the educational process has evolved and changed significantly at all levels of education around the world. The transition from the offline to the online world has been expedited by this catastrophe [1]. All stakeholders in education were forced to adapt by turning to an alternative, namely online education. In this case, the online environment is used not only for teaching and learning, but also for evaluating the performance of pupils. Some of the online platforms that can be utilized as assessment tools are Plickers, Kahoot, Google Forms, and Quizziz. These online systems are capable of analyzing a wide range of exams, including assessment assignments. On a daily basis, students use computers, cellphones, and the Internet, thus technology is a vital part of their lives. Information and communication technologies (ICT) are crucial in today's classrooms for teaching, learning, and assessment. Future professional education has become increasingly reliant on online courses. This strategy facilitates in the provision of basic knowledge as well as the enhancement of awareness on any subject [2]. Two of the most critical concerns are developing accurate evaluation tools and assembling qualitative, dependable tests. There should be no content flows in the text, and the outcome should be measurable [3].

There are various studies on e-learning in today's higher education system. E-assessment is an important part of e-learning, and it's commonly utilized in situations when quick and accurate knowledge testing is necessary, such as in major academic institutions. This e-learning technique is regarded to be tough, time-consuming, and labor-intensive [4]. Exams that are well-structured, on the other hand, help both students and teachers. In light of the worldwide quarantine established in reaction to the virus's spread, e-assessment has become increasingly critical. At one point, a huge number of institutions lost access to traditional in-class learning. In the current environment, e-learning and e-assessment are the only means to continue training, quantify knowledge, and ensure that learning objectives are met. There are numerous benefits to using the internet for teaching, learning, and student assessment [5].

Students who are unable to attend classes on site through fixed hours or at all might take advantage of online courses [6]. Instructors can employ online courses to meet growing class sizes while also reducing their burden [7]. Apart from the preliminary expenses of deploying learning management systems (LMS) and software, [8] point out that online courses can have cheaper material costs than face-to-face courses. According to [9], good online learning requires competent management, curriculum aid, and opportunities for instructor improvement. Several considerations must be completed before teaching and learning can happen in an online environment, mainly for teachers who are used to face-to-face situations. The target of this research is to investigate the difficulty of online assessment in higher education and how it may be implemented.

2. The theoretical backgrounds

The findings of a literature review were based on the application of existing concepts and actual experience. An e-learning model, according to [10] must illustrate the use of pedagogical concepts and learning theories. It's a key factor in figuring out how to put educational theory into reality. According to specialists, an e-learning model's life cycle is separated into four phases. The four steps are concept, development, implementation, and evaluation [11]. Both traditional in-class instructor-led learning and e-learning rely heavily on assessment. Furthermore, there is a clear disparity between real-world actions in this field and a set of information required to pass traditional class exams. As a logical extension of a web-based approach to teaching, the scholar has required students to submit all of their work as web-sites.

Each student, in particular, has created his or her own course website on which they have posted all assignments and projects [12]. The benefits are obvious: students gained new and important skills in web-site design, it motivates a more substantial, effective, and comfortable approach to school assignments, it attests to the precision of evidence, attributed to the fact, and vocabulary usage, and it allows everyone in the world, not just group mates and teachers, access to their results. Zabaleta is a type of zabaleta [13]. For example, item feedback, conditional feedback, test assessment feedback, printing, passing score, and test administration over the internet. In the meantime, Bloom (1956) was correct in claiming that the instructor's role evolved from "sage on the stage" to "guide on the side" [14]. The instructor should first clarify technical difficulties, such as how to create frames on a website, before acting as a language consultant. Given that the majority of e-tests were designed utilizing Bloom's taxonomy principles, let us expand on defining educational purposes and test tasks. Bloom's Taxonomy makes it easier for teachers to translate their goals into practical, usable results that students expect. The first (basic) stage is to get knowledge. According to the definition, knowledge "includes those behaviors and test situations that highlight the remembering, either by recognition or recall, of concepts, materials, or phenomena." Bloom (1956) was correct when he stated that the instructor's based on the definition [15].

Bloom (1956) defines three types of knowledge: specific knowledge (to retain specific information), terminology knowledge, and general knowledge (specific verbal and non-verbal symbols). It is regarded as the most fundamental type of knowledge in some areas. Bloom's categories have an implicit hierarchy, with knowledge being the most fundamental level of cognition and assessment being the highest and most difficult. Teachers can choose the degree of learning goals they want to pursue and create evaluations to match. Items for any level can be written [16]. It is very straightforward to tap lower levels of Bloom's taxonomy with objectively scored item forms, but testing at higher levels is more complex, but not impossible. Test designers, on the other hand, should not be unduly concerned with the subtle differences between Bloom's six stages. For example, the terms knowledge and application are commonly interchanged since they both pertain to the ability to put what has been learned into practice [17].

Most e-testing theorists and test designers are currently focused on the gap between the knowledge level and the rest of the levels. Bulgarian scholars D. Tuparova, E. Goranova, V. Voinohovska, P. Asenova, G. Tuparov, and I. Gyudzhenov conducted a survey to discover what techniques and technical tools are utilized by school mathematics and informatics instructors in Bulgaria [18]. According to the data, teachers prefer "...traditional assessment methodologies such as examinations, practical activities, and project-based methods." The most underutilized ways are 360-degree method, portfolio, and sharing opinions through social media" [19]. As a result, e-designers prefer to produce simple lower-level e-assessment items, according to the findings. According to scientists, one of the reasons for not using higher-level techniques is a shortage of understanding about the approach or the belief that it is inappropriate for the subject. As a result of this research, more systematic support for instructors who employ e-learning and e-assessment in their lectures is required.

3. The significance of online assessment

Assessments have a significant impact on students' experiences. Students must demonstrate that they have met the course learning outcomes in order to receive formative feedback, a grade, or a pass on examinations [20]. They are much more than that, though. For many students, assessments are the main driving element, influencing when and how they study [21] [22]. Students in online settings may assume that because they are not in a traditional classroom, they do not need to put forth as much effort in studying course material or completing tests [22]. While some traditional evaluation approaches do not work well in an online environment, complete and effective assessments can be conducted. When planning an online course, pay close attention to the assessments to verify that the doings students participate in are active in gathering their educational goals while also matching into the online environment [23]

4. Online assessment difficulties and implementation

Student accomplishment is influenced more by assessment design and implementation than by assessment delivery technique. Several studies have found no dissimilarity in student achievement and grades in well-made online and face-to-face course evaluations [24][25]. Furthermore, students' performance on online assessments is unaffected by their favourites or level of comfort with technology [26]. Validity and rigor, on the other hand, can and should be applied to online assessments in the same way they are to face-to-face assessments; they must still line up with course and program learning results, offer a valuable learning environment for students, and set a standard of expertise for students to work so hard for [27].

Changing a face-to-face course to an online layout or building a innovative online course may also encourage teachers to reveal on and increase their course design and teaching skills. Investigating how to construct online courses could introduce educators to new and exciting teaching and assessment methods [28]. It is undoubtedly risky to employ online assessment without a sound educational foundation, solely to use technology and appear new [29] [30]. When colleges provide instructors who want to teach online with tools and opportunities for pedagogical improvement, they can avoid making inefficient teaching decisions and adopting technology just to appear current.

Furthermore, formative feedback systems are utilized. One of the peaks commonly touted benefits of online assessment is the ease with which students can receive detailed feedback [31] [32][32]. In an online setting, feedback can be provided in a variety of formats, including text, audio, and video [34]; this flexibility may make feedback more accessible to some students. Both instructors and students appreciate the timely and consistent feedback [35]. Students are often more motivated and get greater grades when formative input is available. Instructors can use automatic feedback on specific sorts of assessments, which releases their workload, especially in huge classes [3]. When students submit inaccurate responses to online assignments, for example, there may be built-in suggestions or remarks. Online exams are very popular among students and professors because of their convenience and flexibility [4]. Instead of being limited to a classroom, students have more elasticity in how they style their tasks because they can finish them whenever and wherever they want.

Students can contribute to an online chat forum or take an online quiz when and when it is most convenient for them, rather than having to be extant in class for a cluster argument or test. For students who have jobs, family duties, or other obligations that prevent them from being present on school, this can relieve a lot of stress [13]. Apprehensions about classroom distractions and disturbances in work time are also alleviated when using online exams. Distractions and disturbances are less of a problem during examinations. This flexibility, on the other hand, mandates that students be self-directed and focused [23]. Certain students succeed when they are given more switch over their studies, while others, particularly first-year students, are unprepared to handle such duties. More individuals may be needed to guarantee that students are ready to self-regulate and complete assessments on time, such as time planning systems or programs to familiarize students with online interaction [29][7].

Instructors frequently worry about academic integrity when assessing the possibilities of online learning, which has delayed the approval of online assessment. Academic misbehaviour, such as students cheating, plagiarizing, or else profiting unfairly from their classmates, concerns instructors [18]. Instructors argue that wanting in-person proctoring, they do not have the same capacity to supervise students and certify academic honesty. In research, effective strategies for identifying pupils and reducing cheating are beginning to emerge. Modest precautions for academic reliability on online assignments and quizzes, such as question randomization, variable numbers, or blocking access to other course information during the assessment period, are built into LMS and

can be rapidly applied [15]. Anti-plagiarism software, when used in combination with academic integrity teaching, has been revealed to decrease plagiarism [12].

The use of a range of evaluation approaches can likewise help to decrease academic dishonesty [20]. Technologically innovative techniques such as validating biometric data or keystroke dynamics could be used to validate students' answers on written assignments or assessments [17]. Nevertheless, further research and technological progress are vital before they can be commonly used. The majority of these techniques have yet to show that they can be scaled up to accommodate huge groups of pupils.

Another disadvantage of doing online assessments is that students feel lonely and less cooperative if they are not in the same room [7] [31]. Building relationships aids in the enhancement of learning, which is inherently social. Peer feedback activities, discussion boards, and incorporating the study groups community of practice into discussions or assignments may help students communicate and engage more effectively in online courses [14].

As a result, in order to address this problem, students should be linked as part of the evaluation and course design process. Furthermore, in online courses, teacher workload is "front heavy," meaning teachers must invest a large amount of time and power at the beginning of the course [14]. All course materials must be equipped ahead of time, the LMS must be well-ordered, and mechanisms for collaborating with students must be in place before students have admission. This endeavor is necessary because it is vital that students have quick access to all course materials [18]. This activity helps students recall course material and feel prepared for examinations. Similarly, students have expressed some qualms about taking exams online. In one study, students' top concern was equality and justice. They question if their classmates are cheating and if their teachers are catching it when they do not see other students.

Students will feel more at ease and understand the process if the thinking behind online exams, along with the procedures utilized to regulate grades, are made public. Students are likewise skeptical of their professors' technological ability [19]. Because their scores are determined online, they must be assured that technology malfunctions or an instructor's incompetence is not subtract from their accomplishment. Teachers would explain themselves with the learning technologies they will be using, as well as the tracking system for their students' progress. They can then clarify the protocols in place in case of technological challenges to students.

5. Recommendations

On the online platform, there are numerous options for quickly assessing students' performance. The following are some of the most extensively used and researched strategies, which can be used to a wide range of self-controls, ranks, and class sizes. There is increasing corpus of research into methods for addressing the difficulties of evaluating students. Other ideas came from experienced teachers and instructional designers. Because not all of the solutions will be useful in every situation, the reader must choose the ones that are most appropriate to their situation. When creating assessments, keep in mind the course context, student workload, readiness of teaching assistants (TAs) and instructors, technical necessities, and alliance with learning goals.

Make certain that all resources are accessible on the first day of class, and that crucial resources in the LMS are clearly accessible [29]. Instructions, rubrics, and expectations must be clear and precise. Allow students to ask questions in a secure setting, such as a debate boarding, to warrant that all students have equal access to information. Allow students to demonstrate their learning in a variety of ways by allowing them to use a variety of evaluation types. Shared and higher-order learning prospects can help to rise assessment commitment. Use videos, simulations, case studies, or other materials to urge students to participate more deeply. While providing formative evaluation, employ action-focused comments to present students with options for upcoming works [19].

Precise, comprehensive feedback is more beneficial to students than general input. Make a strategy for encouraging academic truth in an online environment. Discourse the importance of this plan with the students [27]. Need a backup plan in place for succumbing or finishing tasks if technology fails. Take note of how your LMS records and documents students' work so that both you and your students can trust technology [8]. Conversation boards are areas in an LMS where students can post and comment to any other one. They can be used in a whole-class or small-groups setting. Several online courses include a discussion board as quantity of the academic writing. On the discussion board, students debate topics, adding their own personal experiences and viewpoints, building on one another's ideas, analyzing case studies, and so on.

According to studies, keep regular dialogues during the course to aid students establish relations with one another and stay dedicated on the course material [19]. Keep discussions on track by giving pre-determined

topics and facilitating them [12]. Provide targeted comments to students early in the course so that they can learn how to develop outstanding discussion ideas [20]. Bound the number of words students can be used in each post to urge them to be brief once delivering their points (for example, 500 words). It also simplifies the process of arranging systematic discussion posts about other course exams [9]. Rotate students as helpers or other roles to inspire participation and engagement [11]. Determine the right premium for conversation board activities so that students prioritize them while maintaining the integrity of the discussions. Instead of participating in a discussion, students will submit separate, unrelated entries. A number of kids are concerned that their classmates will read and comment on their work.

Students may find it difficult to accept negative feedback on their posts or believe that their posts garnered less remarks than their peers'. Discussion boards may feel competitive rather than collaborative as a result of this approach. Students don't give much feedback or make many comments, and disputes are only superficial. Make it clear what the discussion board's aim is and what the acceptable behavior rules are. Organize a variety of lectures, including debates, case studies, and other topics. In big classes, split students into small debate groups. Students will be able to build stronger ties with one another as a result of this. In small groups, discussion boards can be utilized for problem-solving exercises. Give students a problem to solve and urge them to work together to solve it.

Extra material may be offered to groups halfway through the exercise to urge students to reevaluate their novel viewpoints. Keep an eye on the comments to see if they're being used improperly (or have students take turns watching posts). Suitable feedback samples should be provided. Debate how to answer to remarks initial in the semester. Boost students to ask insightful questions in their responses to one another to initiate a discourse. To reduce grading effort, have students select their top five discussion posts for marking at the end of the semester. Students can complete a self-evaluation component in which they explain why they chose these specific positions. Have students complete a self-assessment at the halfway point of the course. On occasion, engage in multi-media discussions or "Twitter-style" discussion postings (edge posts to 140 characters) (photo, audio, etc.). These tactics hearten students to be brief, and they can be a welcome break from writing and reading long discussion threads.

Online exams, as opposed to exams performed in a controlled, supervised environment, are unproctored tests or quizzes that students can be taken from several computers. Typically, online quizzes are completed within the LMS. o Students can interact with content throughout the course and prepare for major tests by taking frequent, low-stakes quizzes, especially if they are got regular, complete feedback on their performance [19]. To ensure that students are comfortable with the test-taking platform, start with practice tests before going on to a quiz on the same platform [15]. Before taking the graded exam, students can advance confidence and improve their performance by finishing a brief, ungraded practice test, receiving feedback, and correcting wrong answers [13]. Keep in mind questions are easy to understand for students who won't be capable of asking for an explanation as with no trouble as they would in a face-to-face exam [16]. Before using questions on an online test, for example, have a coworker or TA review them. To help prevent cheating on multiple-choice examinations, use LMS features like question pools, shifting numbers in math problems, and randomizing the sequencing of questions [28]. Students use records, the Internet, and peer support to finish the tests [19]. It may be tough to guarantee that questions assess higher levels of thinking or conceptual understanding [25]. Because virtual laboratories are new online assignments or quizzes, they may take a long time to develop, test, and implement. It takes time to grow feedback for multiple-choice or numerical questions. Open-web, open-book exams should be the norm for exams and quizzes. This strategy works well when testing deeper understanding, such as case-based or application questions [33]. To ensure that they are staying on top of course material, students should use online quizzes as review assignments. To aid students in learning during the quiz, include some formative feedback, for example many efforts at questions, advice, complete solutions, and future approvals [35]. Include self-assessment or reflection questions at the end of assignments or assessments [14]. Online tests can be made more complex by using matching or short answer questions while still being straightforward to give on an LMS. To improve engagement and higher-order thinking, combine existing films, case studies, simulations, and other interactive components into assignments rather than creating entirely new materials. For instance, have students complete an online simulation to reply quiz questions. Request that students create exam-style questions. Use the finest few student questions on the tests you offer. Make sure questions generated by another teacher or from an online textbook are appropriate for your course and students before using them. If there are many quizzes in a course, deduct the lowest quiz score from the final grade. Allow a number of tries at online quizzes to prevent concerns about technology affecting students' grades on a single attempt. Make a quizzing strategy that balances quizzes and other course evaluations. Instead than

focusing on meeting length requirements, students should instead focus on quality and originality with shorter written assignments rather than lengthy essays [20]. Students can learn in a more social, collaborative, and meaningful way by posting essays or written projects as blogs or discussion postings. During the writing process, provide students at least one opportunity to receive actionable formative feedback [6]. Concentrate evaluation guidelines and descriptions on the writing process as well as the end product [16]. For example, offer advice on how to approach editing the essay and criticism on the quality of the students' work. Students, particularly those who have difficulty writing, are less likely to take advantage of the resources made accessible to them [18]. Providing complete, individual feedback to each student in large classrooms can take time, especially when using journaling or continuous writing evaluations [22]. It is easy to get behind in the grading process when evaluations are lengthy and you want to be detailed in your response.

Notes or assignment specifications should include discipline-specific writing materials [17]. If numerous students are having problems with the same areas on a written project, send feedback to the entire class. Make time to grade written assignments so that they can be done on time. Larger projects should be divided down into phases and organized as cumulative assignments for more frequent feedback and learning. For example, a proposal, an outline and annotated bibliography, and a final submission may all be evaluated as part of a larger essay. Teach Teaching Assistants (TAs) how to grade efficiently using the rubric to help alleviate part of the grading effort. Take time throughout the course to discuss grading. There are several alternatives for providing feedback, including written comments, notes inside a student's work, and audio/video feedback. In the same way that pupils will be writing, provide professional writing samples. Have students read some high-quality blog articles and analyze what makes them good if they're writing blog entries.

When students are looking for advice, have them complete a self-assessment so you can evaluate if your perception of their work ties theirs and that they are taking into account the requirements and credentials. E-Portfolios are digital portfolios that include academic, personal, and professional achievements. By displaying students' best work, they can be utilized to emphasize skill progress, reflection, and course accomplishments. Introduce the e-Portfolio concept early in the semester and encourage students to work on it on a regular basis. Make sure you have access to technical support, especially if your children are using a new platform [2]. Include a peer review or collaboration component. Students get new views by observing what others are doing, and they may create friendships as they watch one another progress. Students may not always understand why they should create an e-Portfolio [2]. Students become worried when e-Portfolio platforms are not user-friendly [14]. E-Portfolios can be scary for students. They may be concerned about the assignment of a huge project [9]. Clarify the perceptives of the project during the semester to remind students why it is vital [10]. Prior to the course, spend some time learning about the platform you'll be utilizing. Make clear expectations and guidance for the students to follow. Establish a grading system, for instance pass/fail or breaking the project down into smaller components with feedback options, to assist reduce the final result's weight [7]. Deliver students with a strong rubric that is easy to grasp and use when grading at the start of the assignment. Have students submit a drafting portfolio halfway through the semester to motivate them to start working sooner and to receive response. Verify that students will have opportunity to reflect during the course so that these aspects can be included in their portfolio. Make a list of thought-provoking questions for others to consider. Allow students to use a choice of methods to display their e-Portfolio (within reason). Students may develop a bodily portfolio and submit it as a PDF, create a personal website, or use PowerPoint presentations, but then again, they are not permitted to use a pay walled podium. Peer feedback is a process in which students provide each other with feedback and suggestions on a project or assignment [23]. In an online course, peer feedback provides a number of benefits, counting cumulative student responsibility and inspiration [16] and establishing community [18][20]. The use of forums, discussion boards, or class announcements to offer assistance, elucidate instructions, or deliver additional information as students contribute comments to one another [30]. When students are categorized on the depth and clarity of their comment, they are more inclined to offer constructive criticism to their peers [32]. Identify your students as partners in the creation of knowledge in the class. While rules are vital to provide students guidance, do not overwhelm them with boundaries that may jeopardize the authenticity of the information they supply [35]. Students frequently do not take peer feedback extremely. Students may not deliver fair or effective peer criticism due to attractiveness, solidarity, or implicit judgments about the individual they are evaluating. They may also make only superficial remarks that provide no practical guidance. Peer feedback can be time-consuming and intimidating for teachers of large online courses. Solicit feedback from students using the same rubric or criteria that will be used to rank them. Give students feedback perfect or inspire them to use clear, action-oriented language to make it easier for their peers to execute feedback. Use a peer feedback form to confirm that students are aware of the hopes for their comments and that the teacher is able to quickly

identify if students have left anything out. Use strict and clear deadlines for students to submit their projects and comments as their work is dependent on the work of others. Teach pupils how to respond to feedback, such as trusting the reviewer's intentions when giving comments. Retell students to maintain a professional demeanor once talking about their work with their peers.

6. Conclusion

In higher education, regardless of the situation, effective and rigorous evaluation is vital. It is a method of motivating students to learn, inspiring them to participate, and evaluating their progress. When planning and giving assessments, take into account the students, the discipline, the course material, and the learning goals. In online courses, teachers must also contemplate how technology will interrelate with each of these issues. Research has identified some of the problems, implementation, and best practices of online examinations. When creating new exams or converting face-to-face to online evaluations, they should be used in a specific context. This handbook explains these principles and offers practical ideas for the design process with the purpose of engaging educators to think and reflect. This, however, is merely the jump of the method. Assessment plan is an iterative process that should be gauged on a regular basis for efficacy.

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