

ประเด็นด้านจริยธรรมจากเทคโนโลยีการเรียนรู้ออนไลน์

Technology-Based Ethical Issues in Online Learning

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ประเด็นด้านจริยธรรมในการเรียนรู้ออนไลน์เริ่มมีตั้งแต่มีการใช้เทคโนโลยีการเรียนรู้ทางไกลในระบบการศึกษา โดยการเรียนรู้ออนไลน์มีประโยชน์หลายประการ ได้แก่ สามารถศึกษาเรียนรู้ด้วยตนเอง มีค่าใช้จ่ายที่ถูก มีความยืดหยุ่น และสะดวกสบายในการเข้าชั้นเรียนหรือร่วมชั้นเรียนในพื้นที่ของตนเอง อย่างไรก็ตาม ปัญหาด้านจริยธรรมเป็นปัญหาที่ต้องได้รับการแก้ไขปัญหาโดยผู้นำด้านการศึกษา ผู้บริหารโรงเรียน ครุและนักเรียน

บทความบันบันชี้ค้นหาปัญหาทางจริยธรรมจากเทคโนโลยีในการเรียนรู้ออนไลน์ ซึ่งได้ทำการศึกษาจากการวิเคราะห์ของงานวิจัยล่าสุด จำนวน 6 เรื่อง โดยในการศึกษาครั้งนี้ได้นำเสนอประเด็นด้านจริยธรรมจากเทคโนโลยีในการเรียนรู้ออนไลน์ 3 ประเด็น ได้แก่ การทุจริตทางวิชาการ ความเหมาะสมสมของเทคโนโลยีและการใช้เทคโนโลยี รวมถึง การยินยอมและการรักษาความลับ ซึ่งผลการศึกษาปรากฏว่า การร่วมมือกันเพื่อคัดลอกและทุจริตทางวิชาการโดยใช้อินเทอร์เน็ตระหว่างการสอบเป็นปัญหาที่พบได้ทั่วไปในกรณีการทุจริตในระบบการศึกษา

นอกจากนี้ จากการศึกษาแสดงให้เห็นว่า การเข้าถึงระบบเทคโนโลยีสารสนเทศ (ICT) อย่างไม่เท่าเทียม ปัญหาด้านโครงสร้างพื้นฐาน คุณภาพการศึกษาที่ลดลง การขาดทักษะด้านดิจิทัล ความแตกต่างของทางเลือกด้านดิจิทัล ต้นทุนค่าใช้จ่ายด้านเทคโนโลยีและความล้าสมัย เป็นประเด็นที่ถูกถกเถียงถึงเรื่องของความเหมาะสมสมและการใช้งานของเทคโนโลยี ในขณะที่ในการใช้การวิเคราะห์ข้อมูลของนักเรียนและการประเมินข้อมูลสารสนเทศลับเป็นประเด็นที่เกี่ยวข้องกับความยินยอมและการรักษาความลับ

งานวิจัยฉบับนี้ สามารถช่วยให้นักเรียน และนักการศึกษาได้สะท้อนและเพิ่มพูนความรู้เกี่ยวกับทุจริตทางวิชาการ การยินยอม การรักษาความลับ ความเหมาะสมและความเข้ากันได้ของเทคโนโลยี และสร้างการดำเนินการเพื่อจัดการกับปัญหาเหล่านี้ในขณะที่เพิ่มการใช้งานเทคโนโลยีเพื่อให้บริการการศึกษาที่มีคุณภาพ ซึ่งจะเป็นแนวทางในการโน้มน้าว การสร้าง หรือการเสริมสร้างนโยบาย กฎ ระเบียบ และการพัฒนาทางวิชาชีพต่อไป

คำสำคัญ: การทุจริตทางวิชาการ, ความลับ, การยินยอม, ประเด็นด้านจริยธรรม, เทคโนโลยี

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Abstract

Ethical issues in online learning have been a subject of scrutiny since the start of the infiltration of technology, remote learning, and distance learning in educational systems. The benefits of online learning include self-learning, a cheaper form of education, flexibility, and the comfort of having classes or attending classes in the coziness of your own space. However, ethical issues have been a concern to deal with by educational leaders, school administrators, teachers, and students. Six recent studies backed with contemporary literature were bound to analysis through a thematic analysis approach. This study uncovered three common ethical issues in online learning: academic fraud, technology appropriateness, compatibility, and consent and confidentiality. The study exposed collaboration, plagiarism, and cheating using the internet during tests and exams as standard practices in academic fraud. The study also showed an unequal distribution of ICT, infrastructure problems, lack of digital literacy, digital divide, and out-of-date technology as disputes in technology appropriateness and compatibility. Using student data analytics, public assessment, and feedbacking are some matters on consent and confidentiality. This research can help students and educators reflect and expand their knowledge on academic fraud, consent and confidentiality, and technology appropriateness and compatibility, and create actions to address them while maximizing technology in delivering quality education. This makes a way in lobbying, crafting, or fortifying policies, rules, and regulations, and professional development.

Keywords: academic fraud, confidentiality, consent, ethical issues, technology

Introduction

The advent of technology has been part of the educational systems for the past years, making education easy, efficient, effective, and advanced. Technology is already present in classroom settings, and teachers have been using high technology to augment and fortify the teaching-learning process. However, some teachers would still opt for traditional teaching where low technology is still the preferred way of teaching. The COVID-19 pandemic forced teachers to resort to online classes to continue delivering lessons amidst the crisis. With this, teachers and students were strained to use technology mainly in their classes. Online classrooms, communication channels, varied pedagogies, and assessments are now dependent on technology. Schools and universities can take advantage of digital technology. Students, teachers, and administrators can connect to the internet and manage to deliver online classes, provide discussions, initiate collaboration, and give assessments and feedback in the comfort of their vicinity, which saves time and transportation (Huy et al., 2021).

Social media networking has now been integrated into some classrooms, but the importance relies on how teachers use it as an educational aid (Boonmoh et al., 2021). With the boost of technology use in the classroom setting comes ethical issues. Johnson (2021) mentioned that computer systems are influenced by social circumstances, social conditions, and values, which focus on ethical concerns. Consent and privacy issues also emerged in online learning. Campbell (2021) mentioned that teachers' professional standards adapt to match the demands of the society in which they work. As a result, they serve as a focal point for examining the aims, desires, and philosophical perspectives of the social and educational institutions to which they belong. Ethical issues are rampant in online classes, and it is essential to discuss them as it affects teaching as a noble profession that withholds the highest ethical and professional standards in dealing with students. Thus, students must also practice honest and professional practices as they pursue their education. This study focuses on common ethical issues technology has to offer, including academic concerns using the advancement of equipment. Other studies yielded educational issues, while others are more into technological matters. This study is a mix of both and what are the ways to address these concerns, creating a relational graphic illustration thematic analysis.

Background

With the pandemic, most students and educational institutions rely predominantly on technology. The advent of technology has been criticized by many in the academe as to where it outlined in creating a better and safe classroom environment. Howlett et al. (2009) regarded online learning as the delivery, assistance, and enhancement of both learning and teaching through digital technology and media and involves communication between learners and teachers employing online resources. Ethics plays a vital role in creating these spaces online. Bartneck et al. (2021) refer to ethics as the study of morality.

In contrast, morality refers to a complex system of laws, principles, and standards that influence or are intended to influence people's behavior. Following this definition, ethical issues are common concerns in education. Thus, the Idaho State University (2019) stated that all of the organization's members' moral values, behaviors, and ethical guidelines are part of the solution; they are also the majority of the problem. Academic fraud is always an issue in education. Academic dishonesty is described as any cheating that occurs concerning official academic exercises. Plagiarism, falsification, fraud, cheating, and sabotage are examples (Berkeley City College, 2018, para. 1). However, technology-based ethical issues branched out to a more complex concern than just academic dishonesty.

In schools, consent and confidentiality are issues teachers and students face. Confidentiality is maintaining information about individuals not to be shared without their knowledge and support, and written and electronic records must be secured so that unauthorized individuals cannot access or read them. This can include grades, outputs, and inputs of the students. When personal information is exchanged, confidentiality is a factor. Students have faith that their teachers will carefully share and

safeguard their information. Every teacher is accountable for maintaining the privacy of every student's data and only disclosing it when necessary, such as to parents, other teachers, and administrators (Scheid, 2019). Another matter related to technology-based ethical issues regarding online classes is the appropriateness and compatibility of technology for teachers and students. Vanek (2003) defined appropriate technology as any item, procedure, concept, or technique that improves human contentment by meeting demands. Technology appropriateness and compatibility become an ethical issue when students fall behind in classes and cannot catch up to the lessons, making online classes a disadvantage to their part because of a lack of appropriate and compatible gadgets (Owolabi, 2020).

There are varied issues when incorporating technology inside the classroom, physical or online. A plurality of instructors said technology helped them improve the productivity of their assessment methods, while a minority said it enabled them to enhance student learning through assessment (Danniels, 2020). In the case of the students, Andrei (2019) noted that adolescent pupils frequently use their smartphones and school-issued laptops for leisure and scaffolding. Muflah et al. (2020) discovered that students indicated geographical area, an absence of prior expertise with online tools, and a lack of previous experience with online tools as the key barriers to online learning. The online classroom platform is not pleasing, intermittent internet connection cuts the teaching momentum, and students' internet connection problems force them to extend lectures outside the teaching time. However, in growing online learning situations, the self-learning capability increases even more vital. Dube (2020) found out that due to a lack of resources to connect to the internet, the learning management system, and low-tech software, this form of instruction precludes many rural learners from teaching and learning in the context of COVID-19 by promoting online learning as the only alternative. These are common issues in online learning while considering technology-based ethical problems.

The study of Yusuf and Jihan (2020) magnified the struggles of educators in online learning. The students' focus was minor than a face-to-face class. Chang (2021) mentioned immediate legal repercussions from discussing individual scores among group members and giving public criticism in blogs. These issues also concern ethics for both parties, the students and the teachers. The questions lie on whether students still practice academic honesty, including any assessment dishonesty and plagiarism, the teachers' exercise of academic fraud and plagiarism, the disregard of consent and confidentiality of the students and their outputs, and even reconsidering technology appropriateness and compatibility among students, teachers, and even schools. These ethical issues need to be tackled in online learning and technology-based classroom. As the scientific intricacy facing online education is growing, it is necessary to recognize what are the most rampant and emerging technology-based ethical issues in online learning and what are the actions needed to address these concerns.

Methodology

This paper is a literature review of the most recent publications on "ethical issues," "technology-based classroom," "online learning," and other related terms that are important to analyze information thematically. This paper incorporates Thematic Analysis (TA), a systematic way of seeing, as well as processing qualitative information using "coding" and "themes" (Braun and Clarke, 2019). The thematic analysis provides a better way of interpreting data, especially from several papers and publications, to create broad themes. In this study, thematic analysis can encapsulate several points from different studies and review how they are related to each other, connecting it to the present situation of education where classes are done online, or at least with the aid of advanced digital technology. Moreover, this paper is engrossed in technology-based ethical issues in online learning, particularly academic fraud, technology appropriateness, compatibility, and consent and confidentiality, during this pandemic where students and teachers have classes online. The sources for literature and publication are from Google Scholar, EBSCOhost, ERIC, Wiley Online Library, and other educational search engines under the criteria of topic relevance, which is matched with the research question, empirical investigations, and publication time frame from 2019-2022 to choose eligible articles. Almost twenty (20) papers were in the pool subject to scrutiny. Only six (6) publications could satisfy the research questions (1) What are technology-based ethical issues in online learning? And (2) How can teachers, students, and schools address these concerns? The result of this literature review can be imperative to further online teaching considering the ethical standards inside and outside the online classroom. Thus, the findings can help students and educators reflect and expand their knowledge on academic fraud, consent and confidentiality, and technology appropriateness and compatibility, and create actions to address them while maximizing technology in delivering quality education. This makes a way in lobbying, crafting, or fortifying policies, rules, and regulations, and professional development.

Results

Technology-based Ethical Issues in Online Learning

Wilson (2020) defines academic fraud as a rising threat to educational bodies where students and researchers practice dishonesty and misconduct in the academe for personal gain. In Herdian et al. (2021), "There are always ways to cheat: Academic Dishonesty Strategies during Online Learning," an online academic dishonesty questionnaire was answered by 150 college students. Randomly chose five students to join the focus group discussion to discuss their behavior in engaging in academic dishonesty during online learning. The purpose of the study was to define the behavior of students who engage in academic dishonesty during online learning. The study is a mix of qualitative and quantitative research approaches, as they conduct survey questionnaires and FGD to obtain relevant data useful for the research. The General percentile average (GPA) was also included in the data

retrieval where 93 participants had a 3.51-4.00 GPA, which dominated the total participants of the study, while only 1 participant had a GPA of 2.00-2.75 and less than 2.00.

Further, 45 male students and 105 female students participated in the research. The researchers used quantitative data collection tools with an academic fraud scale (Ampuni et al., 2020). The questionnaire used contains an academic dishonesty scale of 14 items under the umbrella of plagiarism, cheating, and collaboration. Participants responded to the questionnaire by answering statements like "cheating on the test in any way..." with a ranging scale from 0 (never) to 4 (very often). The questionnaire was reliable and valid, with 0.899 values of reliability and 0.431-0.734 values of validity. The qualitative approach in the research was made through online focus group discussion through zoom meetings.

The FGD's tenacity was to obtain thorough information that could not be acquired from the data collected through the survey questionnaires. Topics discussed in the FGD were related to strategies for academic dishonesty. Results showed that 31.3% favored plagiarism, 31.6% chose "cheating," and 37.1% for collaboration, exposing collaboration as a widely used academic dishonesty. The FGD formed three themes of academic dishonesty during lectures, practicum assignments, and midterm or final exams. Moreover, dishonesty during lessons includes faking the attendance by filling up the attendance sheet even if the students did not attend the class online. Secondly, not wearing a uniform during an online course was considered academic dishonesty during lectures. They make their clothes "appropriate" to only the visible part of the camera during an online class. Though this practice is common elsewhere, they still consider it dishonesty against the rules. Another thorough information acquired is dishonesty during examinations. Students find some questions and answers on the internet. If the question is subjective, they share answers with students from different sections. These cheating behaviors can be encapsulated as 'collaboration,' Students help each other as neophytes and commit academic fraud.

A recent study by Guerrero-Dib et al. (2020) on the impact of academic integrity on workplace ethical behavior highlighted a few issues on ethical concerns in online learning. The study trailed a hypothetic-deductive approach with a quantitative approach. The study used the International Center for Academic Integrity (ICAI) perception survey (McCabe, 2016). 1,203 undergraduate and graduate students participated in the study from a private university in northern Mexico. The survey was regularly conducted as part of a diagnostic exercise provided by the institution to learn about students' impressions of the extent of academic integrity attitude on campus. There are 51% women and 49% men, and 42% of the respondents have an outstanding average grade of above 80 over 100. The questionnaire has four sections; an academic integrity program, where students input the severity of students' behavior in academic dishonesty, and a section where students can state their opinions on statements about academic integrity and conduct. The last section is the demographic questions about the respondents. The researchers carried out three factorial analyses; the frequency of the perceived severity of dishonesty, self-reported ethical attitude, and correlation. The study showed that, in general, copying, falsifying information, using unauthorized support, plagiarizing, and paraphrasing without citation were cheating. Among these results, any cheating or copying affected

the respondents' workplace ethical behavior. Personal ethical behavior greatly influenced the level of academic dishonesty.

Regarding the variables' impact on individual ethical conduct, we discovered that simply employing unlawful assistance had no meaningful impact. One exciting discovery is that respondents' self-reported ethical behavior is unaffected by their perceptions of the severity of cheating, plagiarizing, or employing unauthorized assistance. Sally forth, it may be expected that emphasizing the seriousness of the misbehavior connected with any act of academic dishonesty is more essential than emphasizing the severity of the individual act of academic dishonesty in influencing the ethical behavior of students and professionals.

An existing study by Dhawan (2020) on online learning, A panacea in the COVID-19 crisis, talks more about the grasp of online learning and how the education system, students, and other stakeholders reach necessary preparations to realize and maintain online learning. The study is descriptive research that focuses on the importance of online learning in the middle of the COVID-19 pandemic. Strengths, weaknesses, opportunities, and challenges (SWOC) analyses were conducted to collect pertinent information for the study. The study collected comprehensive data on the SWOC analyses. Table 1 shows the SWOC analysis of online learning during crises like the COVID-19 pandemic.

Strengths	Weaknesses
1. Time flexibility 2. Location flexibility 3. Caters wide audience 4. Various available courses and content 5. Immediate feedback	1. Technical Difficulties 2. Learner's capability & confidence level 3. Time Management 4. Distractions, frustration, anxiety & confusion 5. lack of personal/physical attention
Opportunities	Challenges
1. Scope for Innovation & digital development 2. Designing flexible programs 3. Strengthen skills: problem-solving, critical thinking, & adaptability 4. Users can be of any age 5. An innovative pedagogical approach(Radical transformation in all aspects of education)	1. Unequal Distribution of ICT 2. Infrastructure 3. Quality of Education 4. Digital Illiteracy 5. Digital Divide 6. Technology cost & obsolescence

Table 1: Dhawan (2020) SWOC analysis of online learning during crises

There are a variety of technologies accessible for online schooling, but they can occasionally cause a multitude of problems. Downloading faults, installation matters, login issues, audio and visual issues, and more are challenges and difficulties linked with present technology. Students may find online instruction to be tedious and uninteresting at times. It becomes an issue of appropriateness if it provides distractions, frustration, anxiety, confusion, and lack of personal or physical attention to students and teachers. In contrast, it becomes a matter of compatibility between students and teachers if it stipulates unequal distribution of Information and Communication Technology (ICT), infrastructure problems, compromised quality of education, lack of digital literacy, digital divide, and technology cost & obsolescence. Online content can sometimes be theoretical, making it difficult for students to practice and learn successfully. Course content that isn't up to par is likewise a huge issue. Students believe that the main impediments to online learning are a dearth of society, technological issues, and difficulty understanding teaching objectives (Bidwell et al., 2020).

Further, students appear to be underprepared for various e-learning and academic-type abilities. In addition, students have a low degree of preparation when using Learning Management Systems (Gudmundsdottir and Hathaway, 2020). In his paper, Dhawan (2020) concluded that in scenarios like COVID-19, we need a high level of preparation to swiftly respond to shifts in the setting and different delivery modes, such as remote learning or online learning. Moreover, to render e-learning more productive in these difficult times, we must concentrate on more efficient technology with low acquisition and repair requirements that can effectively aid educational activities. Before implementing and using any e-learning tool or technology, the benefits and drawbacks must be considered. Institutions should perform extensive research when introducing the correct technology to various academic endeavors.

In the study of Aboagye et al. (2020) on COVID-19 and E-Learning: The Challenges of Students in Tertiary Institutions, the researchers squared the survey of the challenges of tertiary students in online learning during the COVID-19 pandemic. One hundred thirty-five respondents participated in the study and answered the Google form of the questionnaire developed by Muilenberg and Berg (2005). The study determined social issues, lecturer issues, accessibility issues, academic issues, generic issues, and learner issues. Data were treated using principal factor analysis with varimax rotation. Mean, standard deviation, and Cronbach alpha were also used for the individual items. Magnifying further to accessibility issues, items considered were the following: the required technology is unavailable, some phones and laptops are not compatible, issues with correct browsers for learning, lack of adequate internet access, and the cost of internet bundle is too high. These items were one of the issues found in the study, with 0.79 α .

	Mean	Std. Deviation
Accessibility issues	4.53	0.67
Social issues	4.29	0.91
Lecturer issues	3.85	1.05
Academic issues	3.78	1.10
Generic issues	3.75	1.16

Table 2: Aboagye et al. (2020) The most critical challenges learners face in an online learning situation

The table shows the comparison of the variables. It shows that accessibility issues, with a mean of 4.53, are fundamental challenges students face during online learning amid the pandemic. Accessibility was noted as a significant difficulty in online education, related to the diverse geographical areas employed for the investigations. According to the survey, students were not prepared for an online learning experience in this period. Students are either apprehensive that studying online will provide them with several obstacles, or they believe that the pandemic time is a time for family talks on obtaining necessities rather than academics. Another major issue could be that the students are already accustomed to the traditional approach. Aboagye et al. (2020) concluded that before the transition to comprehensive online instruction, the mixed method should have introduced students to online learning. Many students are unfamiliar with online learning, and when they are amid the pandemic, they will take the semester instead to be postponed until further notice. An organization's business environment, technology, content, training technique, culture, human resources, and financial factors should be considered before e-learning.

The technological cacophony of accessible sensors, devices, networks, and applications that surround and embed ourselves in our daily lives continue to collect data on us invisibly. Jones's (2019) study on Learning Analytics and Higher Education: A Proposed Model for Establishing Informed Consent Mechanisms to Promote Student Privacy and Autonomy tackled how educational institutions handle sensitive personal student data and privacy concerns as schools move online learning analytics technologies in education. The study amplifies the call that if colleges and universities continue developing data analytics programs and infrastructures to collect sensitive, comprehensive student data, the need to do so correctly will grow. Part of the study discussed how privacy could harm autonomy. According to Rubel and Jones (2016), there are three distinct forms of links between the notions. Privacy may be an object of independence, meaning that individuals may decide whether or not to seek private information. Second, privacy could be a requirement for freedom. Finally, privacy has the potential to encourage autonomy. Realistic goals are advanced when businesses and institutions uphold information privacy standards and enable data to flow according to certain expectations.

Educational institutions that hold so much sensitive and essential data of students – including personal data, outputs, and inputs, must be dealt with accordingly by the school, school heads, and

teachers. Informed consent, often known as 'notice and choice,' is how people see how a third party, such as a business or a university, would utilize information concerning them. Disclosing and using confidential data without student consent is an ethical issue in online learning. The disparity between what institutions believe they can do with student data and what students anticipate to happen with their data can shatter the delicate equilibrium of respect and trust that underpins the relationship (del Rio, 2021). Institutions of higher learning often enter into agreements with third-party educational and technical support to acquire access to practical teaching and learning tools; in return, educational technology corporations get access to critical student data. Some may believe that students are already cognizant of or can learn how these apps trawl user profiles for data to construct additional tools and services, but this is not the case (Jones, 2019).

Further, Jones (2019) elaborated that students can anticipate their university to use standard academic data and specific personal data about them to manage education, provide services, and run the institution, among other things. The study came up with a conclusion of using the Platform for Privacy Preferences (P3P) protocol. By incorporating P3P technology into the extant technical identity layer and developing privacy dashboards that allow students to set their privacy preferences, students are notified about how their educational establishment uses recognizable data and information and for what purposes. Also, gain more deliberate authority over information flows.

Another study by Chang (2021) backed up the recent works of literature on consent and confidentiality issues in online learning. Data collected were analyzed in this study based on information supplied in different vignettes. The researcher used vignettes in the survey. These were short stories, scenarios, depictions, accounts using imagery, and recollection of actions. These vignettes were generated using data from instructors' stories and experiences grading, analyzing, and sharing course-related coursework, instructor's thoughts, responses, and actions in response to anonymous course reflections, final anonymous course evaluations, and how instructors confront both students' privacy and cooperative work. The research was conducted in online courses offered via BlackBoard in higher education institutions in the Eastern United States. Students in these classes were forced to look at each other's work, read it, and comment on it. Students undertake group work in all the courses chosen for the study, and respondents their group-related tasks in their group blogs.

Privacy issues in assignments	Using anonymous names	Open to the class	Open to the public (optional)
Assignments posted on blogs	✓	✓	✓
Students' comments on blogs	✓	✓	✓
Instructors' comments in blogs (later stopped this practice)	X	✓	✓
Mid-term course evaluation	✓	✓	X
Peer evaluation	✓	X	X

Instructors' evaluation comments and evacuation points to the group members	X	X	X
Examples from students' assignments	X	✓	X

Table 3: Chang's (2020) Privacy Issues in Assignments

The study found scenarios and responses to speak more of privacy issues in assignments. Analyzing students' strengths and weaknesses are viewed as a student's right violation. However, it is a response as part of a teacher's teaching pedagogy and doesn't violate students' rights. Further, a scenario where sharing good examples was regarded as providing honor to some students and discerning others is not the thing, as it highlights the assignments and not the students' names. Another is that public comments and reflections from instructors and students are perceived as violating privacy. The instructor gave a chance to make the pupils feel more at ease. Yet, the instructor changed the settings to comment privately and use the anonymous survey. Lastly, sharing grades with group members was also a privacy violation. Nonetheless, as long as the teacher has not yet recorded the individualized rates, FERPA does not prevent sharing a group or individual grades on classroom group projects.

This study demonstrates specific legal privacy issues, such as the Family Educational Rights and Privacy Act's (FERPA) protection of students' data and grades and students' right to privacy on public websites. The transparency and acknowledgment of these policies should be visible and considered by all practitioners, students, and professionals, to avoid misconstructions. It is important that when students are displeased with a practice, teachers can make adjustments to assist the bulk of students' learning while still meeting the unique needs of some students without breaking the guideline. The importance of openly sharing knowledge is growing. However, respecting and protecting learners' privacy is equally crucial, especially in an online learning setting where privacy issues are more complex and subtle than in a learning space. The problem of privacy is universal and contextual. Each country and learning institution takes confidentiality and consents differently. Thus, applying these privacy settings and consent in learning where students and teachers are not harmed and judged without valid reasons. Furthermore, this study emphasized training teachers, practitioners, and students on privacy policies in their educational institutions and even educational policies, especially in the age of online learning.

What can teachers, students, and schools do?

This study discovered three themes out of the research questions from the six publications. The themes are (1) academic fraud, (2) technology appropriateness and compatibility, and (3) consent and confidentiality. With these common and emerging ethical issues in online learning, teachers, students, and schools must step up to mitigate these problems and deliver quality education across all platforms, including online classes. In the study of Gamage, Silva, & Gunawardhana (2020), it is crucial to safeguard academic integrity by providing clear policies, rules, and regulations to teachers

and students about academic dishonesty, partnered with supervised assessments like cheating detectors would greatly minimize academic fraud. Authentic assessment is also one way to combat academic fraud, like scaffolded assessments and real-life scenarios would be more relevant in online learning (Sotiriadou et al., 2020). In the fight for consent and confidentiality in online learning, Reamer (2018) discovered three domains: (1) practice standards, (2) regulatory and licensing standards, and (3) code of ethics standards. These domains are essential for social workers using technology, including teachers dealing with students through online learning. The need for institutions to create a code of conduct for teachers and students is significant in addressing issues with consent and confidentiality in online learning. In terms of technology appropriateness and compatibility, a precise needs assessment for the schools, teachers, and students is critical to locate where the school serves students who cannot afford to provide appropriate and compatible technology, like internet connections, proper computers, and learning environment at home (Walker, 2018). Schools must provide flexibility in learning modalities if students can not afford to provide the required digital technology independently (Chen et al., 2021).

One way to prevent these issues from happening in online classes is to professionally develop teachers, students, and other relevant stakeholders. Peled et al. (2019) suggested professional development, especially for those who are in instructional design development and institutional policy in terms of using digital technology. This notion is supported by Borup & Evmenova (2019) that teachers' professional development is significant, especially when they are exposed to novel things and environments, like online classes. It has a more considerable impact on positive attitudes towards online teaching methods and development.

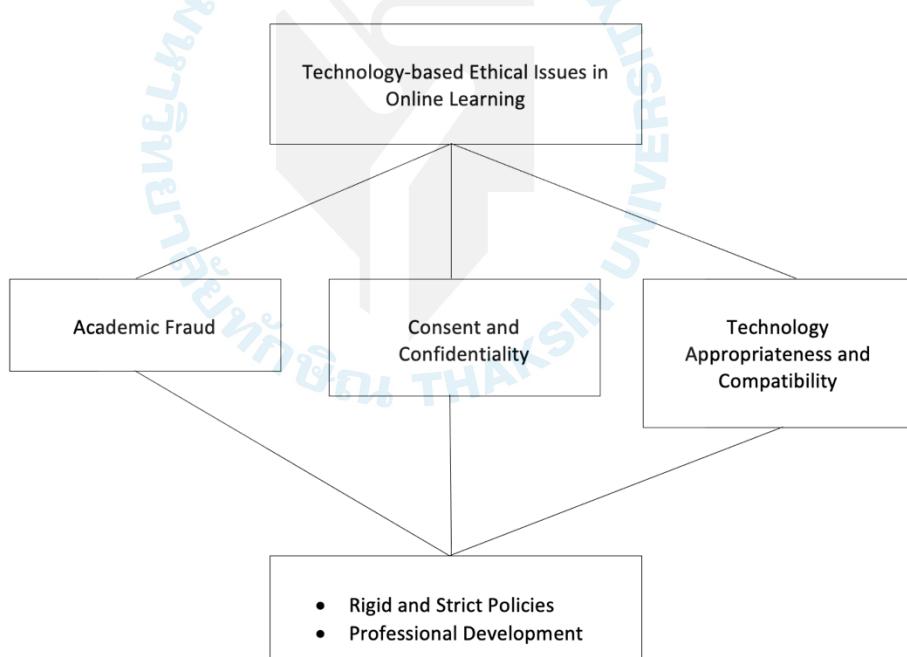


Figure 1. A relational graphic illustration of the three themes

Discussion

Ethical issues in online learning have been a central concern in several works of literature and studies. Nonetheless, the online education boom due to the COVID-19 pandemic raises the dispute on technology-based ethical issues. These issues are already part of the education system's problems, and academicians, educational institutions, and organizations have some ways to sort things out. These issues were magnified during the COVID-19 pandemic, where most of the education system shifted to online learning. In taking to more detailed solutions to the themes discovered, to combat academic fraud, teachers and schools must have rigid, precise, and definite class rules and policies specifically on academic dishonesty, not just for students but also for teachers who practice deception. There must be a process for dealing with these kinds of cases with proper sanctions and punishments. McCabe & Trevino (1993) supported this claim that programs that attempt to disseminate, clarify, and win staff and student approval of academic rigor principles may be beneficial. These initiatives could involve pledging to uphold honor, being reminded of the gravity and repercussions of academic dishonesty, and including language about academic misconduct in course curricula. In dealing with consent and confidentiality, teachers, students, and schools must be aware of different regulations, legislations, and policies at a local, state, country, and even international level like the Family Educational Rights and Privacy Act (FERPA) and the Children's Online Privacy Protection Act (COPPA). In the paper published by Huang et al. (2020), five aspects are presented to protect personal data and privacy; (1) Devices and tools must be prepared before online learning, (2) protect personal data when students enter learning platforms, (3) Secure personal privacy when using online platforms, (4) keep personal data safe when routing social networks in learning, and (5) clear personal data after online class. It shows how humans, with all their potential, can substantially play a part in society by developing their skills and improving their potential for wise and appropriate use of technological tools. This is accomplished by engaging the ethical and professional foundations associated with the pedagogical strategy and implementation in technology adoption (Huda, 2018).

Conclusion

Technology-based ethical issues in online learning have been a great study to tackle, remarkably in the onset of online learning and the prospering of technology in education. This study immersed academic fraud, technology appropriateness and compatibility, and consent and confidentiality in online learning. Students and teachers doing online learning and teaching are prone to these ethical issues and are familiar with committing mistakes or intentionally doing these severe issues. Casas-Roma and Conesa (2021) pinpoint that online assessment raises ethical issues that aren't present in traditional face-to-face evaluation methods but can negatively impact some students. As ethical concerns in online learning arise, there is a call to clarify these trepidations and create stringent and transparent rules and regulations both at the classroom and school levels. Also, this is a crucial concern to lobby higher offices' policies to ensure these issues are not neglected. It is reassuring to

have a broader perspective that goes beyond educational and technological problems to student and teacher behaviors and institutional rules (Etambakonga, 2021).

Moreover, these ethical issues can be directly connected to human factors. Fournier et al. (2019) mentioned that part of fundamental learning on an open network and human factors are vital in determining the support systems needed to build a place or environment where individuals feel at ease, trusted, and respected. Nevertheless, these technology-based ethical issues will continue unless we train and educate our teachers and staff as part of their professional development on the different policies, regulations, and legislation on academic dishonesty, consent, and confidentiality in education. At the same time, we foster teachers on the pedagogical practices to minimize or avoid academic dishonesty and evaluate plans, strategies, and guidelines concerning technology appropriateness and compatibility with different stakeholders.

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