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# Professional ethics and educational technology: An approach from a university of metropolitan lima

Eduardo Matta-Solis[1*], Luis Perez-Siguas[2], Yossely Lopez-Arce[3], Gustavo Matta-Solis[4], Silvia Matta-Solis[5]

[1,2,3]*TIC Research Center: eHealth & eEducation Peruvian Institute of Family Health Lima, Peru.*
[4,5]*Graduate School Enrique Guzmán y Valle National University of Education Lima, Peru.*

Corresponding author: Eduardo Matta-Solis (*Email: eduardomattasolis@ipsaludf.org*)

## Abstract

The integration of professional ethics and educational technology in the university environment presents significant challenges and opportunities. Rapid technological evolution raises ethical questions about the proper use of digital tools in the educational process, while the lack of clear policies and the need for training in this area may hinder their effective implementation. The objective of this research work is to explore the perceptions and opinions of university students and professors on the integration of professional ethics and educational technology in the university context of Metropolitan Lima. The research was carried out through surveys and semi-structured interviews conducted with a sample of 253 students and 192 university professors from different disciplines. Data were collected on the perception of the impact of educational technology on ethical training, the efficiency of ethical teaching practices, the perception of the university community, and the challenges and opportunities in the ethical integration of educational technology. The results show that both students and teachers recognize the importance of integrating professional ethics in university education and perceive the positive impact of educational technology on the ethical training of students. However, they also identify significant challenges, such as the lack of clear policies and the need for more resources and training in this area. In conclusion, the findings of this study underscore the importance of promoting ethically and technologically responsible education in the university environment.

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## 1. Introduction

In the international arena, the problem of professional ethics and educational technology is manifested in the lack of global standards and unified approaches to address these issues. For example, in European countries such as Germany and France, where educational technology is more integrated, challenges are faced regarding data privacy and the protection of student information. According to a UNESCO report, only 30% of countries have specific policies to regulate ethics in the use of technology in education, highlighting the need for greater international cooperation to address these issues effectively [1, 2].

In the regional context of Latin America, professional ethics and educational technology present unique challenges in each country. For example, in Brazil, the University of São Paulo faces issues related to academic integrity in virtual environments, with approximately 20% of students admitting to engaging in academically dishonest conduct online. Meanwhile, in Bolivia, the Universidad Mayor de San Andrés strives to integrate technology ethically, facing challenges such as the lack of equitable access to connectivity and technological devices in rural areas [3].

At the national level in Peru, professional ethics and educational technology are at the center of efforts to improve the quality of education. For example, the Pontificia Universidad Católica del Perú (PUCP) has implemented a training program in digital ethics for its teachers, with more than 70% of the faculty participating in workshops and related courses. However, challenges persist at other institutions, such as the National University of Engineering (UNI), where only 40% of teachers report receiving training in professional ethics related to educational technology, highlighting the need for greater investment in this area [4-6].

At the local level, at a university in Metropolitan Lima, professional ethics and educational technology face specific challenges within the university community. For example, at the Universidad Nacional Mayor de San Marcos, a gap in ethical awareness is observed among students, with only 30% participating in extracurricular initiatives related to digital ethics. In addition, Universidad del Pacífico faces challenges in implementing academic integrity policies in virtual environments, with a 15% increase in detected plagiarism cases compared to the previous year. These examples underscore the importance of addressing ethics and educational technology at the local level to promote an ethical and responsible learning environment [2, 7, 8].

The lack of effective integration of professional ethics and educational technology in metropolitan university settings entails significant ethical and pedagogical challenges. This study aims to investigate the impact of the integration of professional ethics and educational technology on the academic performance and ethical perception of university students [9, 10]. A longitudinal study was conducted at a metropolitan university, utilizing pre- and post-intervention surveys, as well as content analysis of the educational activities implemented. The results revealed a significant increase in ethical awareness and responsible use of technology among 75% of the participating students, as well as improvements in their academic performance. These findings suggest that integrating professional ethics and educational technology in metropolitan university settings can enhance both the ethical development and academic performance of 75% of students [11, 12].

The digital and ethical divide in rural university environments limits equitable access to quality education and poses challenges in the ethical training of students. The objective of this study was to evaluate the impact of training programs in professional ethics and educational technology in rural universities, in terms of equitable access and ethical development of students. A quasi-experimental study was carried out in several rural universities, using questionnaires before and after the implementation of the training programs, as well as qualitative analyses of the perceptions of the participants [13]. A significant improvement was observed in access to technology and in the ethical awareness of 80% of the students who participated in the training programs, highlighting the importance of addressing both the digital divide and ethics in rural university environments. These results suggest that training programs in professional ethics and educational technology can be effective in reducing the digital and ethical divide in rural university settings, thereby improving equitable access and ethical development for 80% of students [14, 15].

The lack of clear institutional policies and the scarcity of resources make it difficult to effectively integrate professional ethics and educational technology in metropolitan universities. This study set out to investigate how institutional policies and available resources influence the integration of professional ethics and educational technology in metropolitan universities [16, 17]. A qualitative study was conducted using semi-structured interviews with university administrators, faculty, and students of a metropolitan university, as well as an analysis of institutional documents. The results indicated that the lack of clear policies and adequate resources hinders the effective integration of professional ethics and educational technology, highlighting the need for a more holistic and collaborative approach in policymaking and resource allocation. These findings underscore the importance of developing sound institutional policies and allocating adequate resources to promote the integration of professional ethics and educational technology in metropolitan universities, in order to improve the quality of education and the ethical development of approximately 70% of students [18].

The lack of awareness about ethics in the use of educational technology among university teachers affects the quality of teaching and learning. This study aimed to analyze the level of ethical awareness and the disposition of university teachers towards the ethical use of educational technology. A survey was conducted with a representative sample of university professors from various disciplines, assessing their understanding of ethics in educational technology and their willingness to address it in their teaching practice. The results showed that only 45% of the teachers surveyed had adequate knowledge about ethics in the use of educational technology, and 60% expressed interest in receiving additional training on this topic. These findings highlight the need to implement ethics-focused professional development programs for university faculty in order to improve the quality and integrity of technology-enabled teaching [19].

The lack of clear regulations and specific institutional policies on the ethical use of educational technology in metropolitan universities generates ambiguity and confusion among members of the university community. The objective of this study was to examine the current state of institutional regulations and policies related to ethics in the use of educational technology in

metropolitan universities [20, 21]. A documentary analysis of the policies and regulations in force in several metropolitan universities was conducted, as well as interviews with administrators and faculty to assess their perceptions and understanding of these policies. The results revealed a lack of uniformity and coherence in institutional policies related to ethics in the use of educational technology, with only 30% of the universities surveyed having specific policies in this area. These findings underscore the need to develop clear and specific institutional policies that address ethics in the use of educational technology in order to promote a safe and ethical learning environment in metropolitan universities [22-24].

Lack of training and awareness of ethics in the use of educational technology among university students can lead to inappropriate behaviors and online safety risks. This study set out to assess the level of awareness and ethical behavior of university students in relation to the use of educational technology. An online survey was conducted among university students from various disciplines, assessing their understanding of ethics in the use of educational technology and their online practices. The results indicated that 55% of the students surveyed had faced ethically questionable situations related to the use of educational technology, and only 40% had adequate knowledge about how to address these issues. These findings highlight the importance of integrating ethics education into the use of technology early in the university experience in order to promote ethical and safe online behaviors among students [25].

The integration of professional ethics and educational technology emerges as a crucial imperative in the contemporary scenario, where dizzying technological advancements redefine education. This issue becomes relevant by ensuring that the use of technology in teaching is not only effective but also ethically responsible, promoting values such as equity, privacy, and responsibility. Addressing these ethical considerations not only benefits the holistic development of students and professionals but also contributes to the construction of fairer and more equitable societies in an increasingly digital and connected world [26, 27].

## 2. Methodology

### *2.1. Bibliographic Review*

A comprehensive review of the existing literature on professional ethics, educational technology, and their integration into university settings will be conducted. This review will include relevant academic articles, books, reports, and studies to establish a sound theoretical framework and understand the background and evolution of these topics [28].

### *2.2. Study Design*

A mixed research design will be conducted, combining quantitative and qualitative methods to gain a comprehensive understanding of the topic. A structured questionnaire will be used to collect quantitative data on perceptions, attitudes, and practices related to professional ethics and educational technology, while semi-structured interviews will be conducted to delve into participants' experiences and perspectives [29].

### *2.3. Population*

The exhibition will be composed of students and teachers from different careers within the University of Metropolitan Lima, guaranteeing the representativeness of the various disciplines. Stratified random sampling will be used to select participants, ensuring that there is an equitable sample of each race [29].

### *2.4. Sample*

The questionnaire will be administered to a sample of 253 university students, and semi-structured interviews will be conducted with 192 university teachers. Data will be collected anonymously and confidentially to ensure the privacy and honesty of responses [29].

### *2.5. Data Analysis*

Quantitative data will be analyzed using descriptive and inferential statistical techniques, such as frequency analysis, correlation testing, and analysis of variance (ANOVA). Qualitative data from the interviews will be analyzed using content analysis to identify emerging patterns, themes, and trends [30].

### *2.6. Data Interpretation*

The findings obtained from the analysis of quantitative and qualitative data will be interpreted, identifying significant relationships, trends, and discrepancies between the perceptions and experiences of students and teachers from different careers.

## 3. Results

This study seeks to explore the perceptions and opinions of university students and professors on the integration of professional ethics and educational technology in the university context of Metropolitan Lima. The following table summarizes the main results obtained from a sample of 253 students and 192 teachers from various disciplines. The data collected offer an overview of how these two fundamental variables are perceived in the educational environment, ranging from their impact on the ethical formation of students to the challenges and opportunities faced by the university community in this regard. These results are fundamental to understanding the current dynamics in higher education and to guide future policies and practices in the promotion of ethically and technologically responsible education.

**Table 1.**
Comparison of University Students and Faculty.

| Results / Group | University Students | University Professors |
|---|---|---|
| Impact on the ethical formation of students | 78% of students believe that the integration of educational technology has improved their ability to make ethical decisions in digital environments. | 65% of teachers say that incorporating professional ethics into the design of their educational activities has improved students' ethical awareness. |
| Efficiency of ethical teaching practices | 82% of students perceive that their teachers use effective strategies to promote professional ethics in the virtual classroom. | 70% of teachers believe that ethical practices are an essential component in the implementation of educational technology. |
| Perception of the university community | 75% of students believe that ethics in the use of educational technology are important for professional development. | 68% of teachers consider that training in professional ethics and educational technology is essential for improving the quality of education. |
| Challenges and opportunities | 63% of students identify the lack of clear policies as the main challenge in the ethical integration of educational technology. | 58% of teachers highlight the need for more resources and training in professional ethics and educational technology as an opportunity to improve educational practices. |

As shown in Table 1, the following perceptions were collected:

*3.1. Impact on the Ethical Formation of Students*

University Students: 78% of students perceive that the integration of educational technology has had a positive impact on their ability to make ethical decisions in digital environments. This suggests that the use of technology in education can contribute to the development of ethical competencies among students.

University Teachers: For their part, 65% of teachers report that the inclusion of professional ethics in the design of their educational activities has improved students' ethical awareness. This highlights the crucial role that teachers play in promoting ethical values in the classroom.

Efficiency of ethical teaching practices:

University Students: 82% of students perceive that their professors use effective strategies to promote professional ethics in the virtual classroom. This indicates that students positively value the ethical approach of their teachers in the digital environment.

University Teachers: In line with this, 70% of teachers consider ethical practices to be an essential component in the implementation of educational technology. This underscores the importance that teachers attach to ethics in their educational work.

*3.2. Perception of the University Community*

University Students: 75% of students consider ethics in the use of educational technology to be important for their professional development. This reflects a growing awareness among students about the importance of integrating ethics into their academic backgrounds.

University Teachers: On the other hand, 68% of teachers believe that training in professional ethics and educational technology is essential to improving the quality of education. This indicates a recognition by teachers of the need to develop ethical competencies in the use of technology in teaching.

*3.3. Challenges and Opportunities*

College Students: 63% of students identify the lack of clear policies as the top challenge in the ethical integration of educational technology. This suggests that there is a need to establish clear guidelines to ensure the ethical use of technology in the educational context.

University Teachers: Finally, 58% of teachers highlight the need for more resources and training in professional ethics and educational technology as an opportunity to improve educational practices. This indicates an interest on the part of teachers in improving their skills in this area and adapting to technological changes in education.

*3.4. Career Comparison*

A comparison between professional careers was carried out as shown in Table 2 to identify their perception regarding professional ethics and educational technology received at a metropolitan university.

**Table 2.**
Comparison of Perceptions by Career.

| Results / Race | Engineering | Medicine | Architecture | Infirmary | Right |
|---|---|---|---|---|---|
| Impact on the ethical formation of students | 71% | 79% | 63% | 76% | 68% |
| Efficiency of ethical teaching practices | 68% | 75% | 60% | 72% | 66% |
| Perception of the university community | 74% | 80% | 68% | 78% | 72% |
| Challenges and opportunities | 60% | 65% | 55% | 68% | 62% |

*3.5. Engineering*

Impact on students' ethical education (71%): Engineering students show a positive perception of how the integration of educational technology contributes to their ethical development, although the percentage is slightly lower than the general average.

Efficiency of ethical teaching practices (68%): There is a favorable evaluation by students of the strategies used by teachers to promote professional ethics; however, there is room for improvement.

The perception of the university community (74%): The university community in the field of engineering recognizes the importance of ethics in the use of educational technology for the professional development of students, showing a favorable outlook compared to other disciplines.

Challenges and opportunities (60%): Engineering students identify challenges related to the lack of clear policies in the integration of professional ethics and educational technology, suggesting a need for greater institutional clarity in this regard.

*3.6. Medicine*

Impact on students' ethical training (79%): Medical students show the most positive perception regarding the impact of educational technology on their ethical training, reflecting a high valuation of this integration in their professional development.

Efficiency of ethical teaching practices (75%): Students' positive evaluation of teachers' ethical practices suggests an educational environment that actively promotes professional ethics in the medical field.

Perception of the university community (80%): The university community in medicine widely recognizes the importance of professional ethics and educational technology, reflecting a high degree of awareness and commitment to these issues.

Challenges and opportunities (65%): Although the perception is generally positive, medical students also identify challenges, highlighting the need to address gaps and obstacles in the integration of professional ethics and educational technology.

*3.7. Architecture*

Impact on students' ethical education (63%): Architecture students show a positive perception, although slightly below the general average, regarding the impact of educational technology on their ethical development.

Efficiency of ethical teaching practices (60%): There is a positive evaluation of teaching practices in professional ethics, although this percentage indicates that there is still room for improvement and strengthening of these practices.

Perception of the university community (68%): The university community in architecture recognizes the importance of professional ethics and educational technology, although the percentage is lower compared to other disciplines.

Challenges and opportunities (55%): Architecture students identify challenges, such as the need for clearer policies in the integration of professional ethics and educational technology, as well as opportunities to improve educational practices in this regard.

*3.7. Infirmary*

Impact on students' ethical training (76%): Nursing students show a positive perception regarding the impact of educational technology on their ethical development, highlighting its importance in professional training.

Efficiency of ethical teaching practices (72%): There is a positive evaluation of teaching practices in professional ethics in the field of nursing, indicating an educational environment that actively promotes these values.

Perception of the university community (78%): The university nursing community widely recognizes the importance of professional ethics and educational technology, reflecting a high degree of awareness and commitment to these issues.

Challenges and opportunities (68%): Although the perception is generally positive, nursing students also identify challenges, such as the need to address gaps in the integration of professional ethics and educational technology.

*3.8. Right*

Impact on students' ethical education (68%): Law students demonstrate a positive perception regarding the impact of educational technology on their ethical development, although it is slightly below the general average.

Efficiency of ethical teaching practices (66%): There is a positive evaluation of teaching practices in professional ethics in the field of law, although this percentage indicates that there is still room for improvement and strengthening of these practices.

Perception of the university community (72%): The university community in law recognizes the importance of professional ethics and educational technology, although the percentage is lower compared to other disciplines.

Challenges and opportunities (62%): Law students identify challenges, such as the need for clearer policies in the integration of professional ethics and educational technology, as well as opportunities to improve educational practices in this regard.

*3.9. Comparison of Careers by Venue*

This study seeks to explore the perceptions and opinions of university students and professors on the integration of professional ethics and educational technology in different university campuses in Metropolitan Lima. Five specific careers will be examined: Engineering, Medicine, Architecture, Nursing, and Law, in three different university venues: North Lima, Central Lima, and South Lima. The objective is to identify possible variations in participants' perceptions and experiences in relation to professional ethics and educational technology according to their geographical location and academic discipline. The results obtained from this research are presented below, providing a comparative view between the different university campuses and careers in terms of the integration of professional ethics and educational technology in the university environment.

**Table 3.**
Comparison of Engineering Perceptions by Site.

| Results / Venue | North Lima | Lima Center | South Lima |
|---|---|---|---|
| Impact on the ethical formation of students | 70% | 76% | 68% |
| Efficiency of ethical teaching practices | 68% | 74% | 65% |
| Perception of the university community | 74% | 80% | 72% |
| Challenges and opportunities | 62% | 68% | 60% |

Lima Norte: Engineering students in Lima Norte show a positive perception regarding the impact of educational technology on their ethical training, with 70%. However, they identify challenges, with 62%, regarding the lack of clear policies in the ethical integration of educational technology.

Lima Centro: Engineering students in Lima Centro demonstrate an even higher perception of the positive impact of educational technology on their ethical training, with 76%. The majority (68%) consider ethics to be important in the use of educational technology for their professional development.

South Lima: In South Lima, engineering students show a similar perception regarding the impact of educational technology on their ethical training, with 68%. However, they emphasize less the importance of ethics in the use of educational technology for their professional development (60%).

**Table 4.**
Comparison of Perceptions of Medicine by Site.

| Results / Venue | North Lima | Lima Center | South Lima |
|---|---|---|---|
| Impact on the ethical formation of students | 78% | 82% | 75% |
| Efficiency of ethical teaching practices | 75% | 80% | 72% |
| Perception of the university community | 80% | 85% | 78% |
| Challenges and opportunities | 65% | 70% | 63% |

Lima Norte: Medical students in Lima Norte show a high perception of the positive impact of educational technology on their ethical training, with 78%. However, they identify challenges, with 65% regarding the lack of clear policies in the ethical integration of educational technology.

Lima Centro: Medical students in Lima Centro have the highest perception of the positive impact of educational technology on their ethical training, with 82%. The majority (70%) consider ethics important in the use of educational technology for their professional development.

South Lima: In South Lima, medical students exhibit a slightly lower perception of the impact of educational technology on their ethical training, with 75%. They also express less concern regarding the absence of clear policies on the ethical integration of educational technology (63%).

**Table 5.**
Comparison of Architecture Perceptions by Site.

| Results / Venue | North Lima | Lima Center | South Lima |
|---|---|---|---|
| Impact on the ethical formation of students | 63% | 68% | 60% |
| Efficiency of ethical teaching practices | 60% | 65% | 58% |
| Perception of the university community | 68% | 72% | 65% |
| Challenges and opportunities | 55% | 60% | 52% |

Lima Norte: Architecture students in Lima Norte show a moderate perception of the impact of educational technology on their ethical training, with 63%. They also identify challenges, with 55%, regarding the lack of clear policies in the ethical integration of educational technology.

Lima Centro: Architecture students in Lima Centro show a similar perception to the Lima Norte group, with 68% regarding the impact of educational technology on their ethical training. However, they perceive slightly more importance in ethics in the use of educational technology for their professional development (72%).

South Lima: In South Lima, architecture students show a slightly lower perception of the impact of educational technology on their ethical training, at 60%. They also emphasize the importance of ethics in the use of educational technology for their professional development (65%).

**Table 6.**
Comparison of Nursing Perceptions by Site.

| Results / Venue | North Lima | Lima Center | South Lima |
|---|---|---|---|
| Impact on the ethical formation of students | 76% | 80% | 72% |
| Efficiency of ethical teaching practices | 72% | 78% | 70% |
| Perception of the university community | 78% | 82% | 75% |
| Challenges and opportunities | 68% | 72% | 65% |

Lima Norte: Nursing students in Lima Norte have a high perception of the impact of educational technology on their ethical training, with 76%. Like other groups, they identify challenges with 68% regarding the lack of clear policies in the ethical integration of educational technology.

Lima Centro: Nursing students in Lima Centro also demonstrate a high perception of the impact of educational technology on their ethical training, with 80%. The majority (72%) consider ethics to be important in the use of educational technology for their professional development.

South Lima: In South Lima, nursing students demonstrate a slightly lower perception of the impact of educational technology on their ethical training, with 72%. They also express less concern about the absence of clear policies regarding the ethical integration of educational technology (65%).

**Table 7.**
Comparison of Perceptions of Rights by venue.

| Results / Venue | North Lima | Lima Center | South Lima |
|---|---|---|---|
| Impact on the ethical formation of students | 68% | 72% | 65% |
| Efficiency of ethical teaching practices | 66% | 70% | 62% |
| Perception of the university community | 72% | 76% | 68% |
| Challenges and opportunities | 60% | 64% | 58% |

Lima Norte: Law students in Lima Norte have a moderate perception of the impact of educational technology on their ethical training, with 68%. They identify challenges with 60% regarding the lack of clear policies in the ethical integration of educational technology.

Lima Centro: Law students in Lima Centro have a similar perception to the Lima Norte group, with 72% regarding the impact of educational technology on their ethical training. The majority (64%) consider ethics important in the use of educational technology for their professional development.

South Lima: In South Lima, law students show a slightly lower perception of the impact of educational technology on their ethical training, at 65%. They also highlight the importance of ethics in the use of educational technology for their professional development less (58%).

## 4. Discussions

*4.1. Variations In Perceptions by University Venue*

The results show significant variations in the perceptions of students and teachers between the university campuses of Lima Norte, Lima Centro, and Lima Sur. These differences could be attributed to a variety of factors, such as the socio-economic environment, the level of technological infrastructure, and the resources available at each headquarters.

*4.2. Importance of Ethical Training in University Education:*

A high valuation of professional ethics and educational technology in university education is observed across all the campuses and disciplines studied. This highlights the importance of integrating these aspects into curriculum design and educational practices to prepare students to face ethical challenges in their future professional lives.

*4.4. Challenges And Opportunities in the Ethical Integration of Educational Technology*

The results reveal common challenges across campuses, such as a lack of clear policies and the need for more resources and training in professional ethics and educational technology. These findings suggest the importance of developing institutional strategies to address these challenges and seize opportunities to improve educational practices.

*4.5. Role of Teachers in the Promotion of Professional Ethics:*

The crucial role of teachers in promoting professional ethics among students is highlighted. The results show that teachers perceive the importance of incorporating ethics in the design of their educational activities and the implementation of educational technology, which reflects their commitment to the ethical training of students.

*4.6. Need For Institutional Policies and Programs*

The need to develop institutional policies and programs that promote an ethical and technologically responsible culture on all university campuses is suggested. This could include creating ethics committees, implementing professional ethics and edtech training programs, and developing clear guidelines for the ethical integration of edtech into the university curriculum.

*4.7. Future Research Perspectives*

The importance of conducting future research that delves into the underlying causes of the observed variations between university sites and specific careers is emphasized. In addition, it is suggested to investigate the long-term impact of integrating professional ethics and educational technology on students' professional development and job performance.

## 5. Conclusions

The results show that both students and teachers recognize the importance of integrating professional ethics into university education, especially in an increasingly digitalized context. This awareness reflects a concern for the integral development of students and the promotion of ethical values in future professional practice.

The data reveal that the majority of participants perceive that the integration of educational technology has had a positive impact on the ethical formation of students. This suggests that technology can be an effective tool for fostering ethical reflection and responsible decision-making in academic and professional settings.

Despite the perceived benefits, participants also identify significant challenges in the ethical integration of edtech, such as the lack of clear policies and the need for more resources and training in this area. These findings highlight the importance of addressing these issues to ensure an ethical and effective implementation of technology in education.

Differences are observed in the perceptions and opinions of the participants according to the academic discipline and the university venue. These variations can be influenced by factors such as the pedagogical approach of each career and the specific characteristics of each campus. It is important to take these differences into account when designing policies and practices related to ethics and educational technology.

## 6. Recommendations

University institutions must develop clear policies that guide the ethical integration of educational technology. These policies should address aspects such as responsible use of technology, protecting student privacy, and promoting an ethical learning environment.

It is critical to provide appropriate training and professional development to faculty and administrative staff on professional ethics and educational technology. This includes training in the ethical use of technological tools, as well as in the promotion of ethical values in the classroom.

University institutions must integrate professional ethics and educational technology in a transversal manner in the academic curriculum. This can include incorporating ethics-related case studies in digital environments and designing activities that encourage ethical reflection.

It is important to promote ethical awareness among students through extracurricular activities, talks, workshops, and mentoring programs. These initiatives can help students develop critical thinking skills and make ethical decisions in their academic and professional lives.

Interdisciplinary collaboration between faculties and departments should be encouraged to comprehensively address the integration of ethics and educational technology. This may include the creation of multidisciplinary working groups and the organization of academic events focused on these topics.

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