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# The implementation of educational technology ethics by learning developers in company

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**ABSTRACT**

Technology is increasingly diverse in type and function, so technology is increasingly attached to human activities. Technology is used in every human activity, from simple to complex. Using technology is one of the efforts to answer national education objectives contained in Law No. 20 of 2003. This research aims to explain the application of educational technology ethics by a learning developer in a company. This research method uses a qualitative approach by conducting library research and interviews. The results obtained are that in its application, many ethical practices come from the work culture in the company or institution. Therefore, many of these work ethics systems are not written. In addition, several factors influence professional attitudes in collaborating with colleagues. Some include effective communication, mutual trust, respect, ability to cooperate, and willingness to learn from colleagues.

**ABSTRAK**

*Saat ini teknologi semakin beragam jenis dan fungsinya sehingga teknologi semakin melekat dengan aktivitas manusia. Teknologi digunakan dalam setiap aktivitas manusia dari yang sederhana hingga kompleks. Penggunaan teknologi merupakan salah satu upaya untuk menjawab tujuan pendidikan nasional yang terdapat dalam UU No. 20 Tahun 2003. Penelitian ini bertujuan untuk menjelaskan penerapan etika teknologi pendidikan yang dilakukan seorang pengembang pembelajaran di perusahaan. Metode penelitian ini menggunakan pendekatan kualitatif dengan melakukan wawancara dan studi pustaka (library research). Adapun hasil yang didapatkan bahwasanya pada penerapannya banyak praktik etika yang berasal dari budaya kerja di perusahaan atau lembaga tersebut. Karena itu, banyak dari tata etika kerja tersebut yang tidak tertulis. Selain itu, ada beberapa faktor yang memengaruhi sikap profesi dalam berkolaborasi dengan kolega. Beberapa diantaranya meliputi komunikasi yang efektif, rasa saling percaya, rasa hormat, kemampuan untuk bekerja sama, dan kesediaan untuk belajar dari kolega.*

*Kata Kunci: etika profesi; pengembang pembelajaran; profesi; teknologi pendidikan*

# INTRODUCTION

Currently, technology is becoming increasingly diverse in its types and functions, making it more and more integrated with human activities. Technology is used in every human activity, from the simple to the complex. Technology has entered all spheres of human activity, including education. Using technology is one of the efforts to achieve the national education goals outlined in Law No. 20 of 2003. Implicitly, the national education goals, as outlined in Law No. 20 of 2003, are to develop students' potential so that they can become quality individuals and meet the challenges of a dynamic era.

As Science and Technology (S&T) develops, technology and education are becoming increasingly integrated into human activities (Mutia *et al*., 2023). Science and Technology (IPTEK) in the world of education encourages anyone to shape and enhance their existing potential. The best potential within an individual enables them to develop and progress, both for themselves and for others. This led to the creation of specific fields of study. Educational technology is one of the fields of knowledge and ethical practice that aims to facilitate and enhance learning. Educational technology is a field of knowledge and ethical practice, and as such, some individuals study within it (Sopian *et al.,* 2022). Individuals who study educational technology can later work as educational technologists.

The profession of educational technologist is not merely about creating technology for the educational process. When referring back to the definition of educational technology according to Januszweski and Molenda in the book "Educational Technology: A Definition with Commentary," educational technology is defined as the ethical study and practice aimed at facilitating learning and improving performance by creating, using, and managing technology resources. The profession of educational technologist is a job that requires expertise in the field of educational technology. Thus, the profession of educational technologist possesses the expertise to facilitate learning that is both effective and efficient, and to improve an individual's performance by creating, developing, utilizing, and managing appropriate technologies. To effectively implement their skills, educational technology professionals must also apply ethical principles to enhance learning facilities, ensuring they provide benefits without harming others.

Ethics in educational technology will encourage practitioners to consider the social impact of the technologies they develop or implement. Being a profession means that the educational technology profession has met the requirements to be considered a profession, as stipulated in Government Regulation Number 28 of 2017. Like other professions, educational technology has its own set of professional ethics. Ethics and profession are closely related, even becoming one meaning when the two words are combined. Ethics originates from the Greek word "ethos," meaning customs or habits (Wahyuningsih, 2022). Ethics is concerned with the values of good ways of life. A profession is a job that requires specific qualifications for its execution (Sahaka, 2019). Professional ethics is the goal for individuals with a fixed profession to adhere to their professional values, be responsible, and uphold the profession they hold (Horta *et al*., 2023; Noverista *et al*., 2023). An educational technologist must adhere to the professional code of ethics they uphold. A professional in educational technology must always consider their ethics in their actions, not just for their work but also for themselves, in order to lead a good life.

In a previous study by Ariani (2017), a theoretical review was conducted to provide an overview of the diversity of Educational Technology professions. This article examines the professional competencies of Educational Technology in 1977, 1994, and 2012. Based on the fundamental concepts of Educational Technology and current job market developments, many new Educational Technology professions are still emerging both in Indonesia and abroad. Therefore, the field of Educational Technology must anticipate this by creating more systematic and comprehensive regulations to encompass professionals in the field.

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Another study by Warsita (2017) discussed the challenges and roles of the Instructional Technology Developer (PTP) profession. PTP must possess creative and innovative abilities to develop cutting-edge learning models in accordance with 21st-century learning paradigms. Additionally, PTP must also be capable of collaborating with other professions to produce products. PTP also needs to enhance its competencies in the fields of learning and technology to provide learning media that cater to various types, levels, and pathways of education in accordance with the current curriculum.

In various countries, including Indonesia, the profession of educational technologist has been recognized in the industry. There are regulations regarding the functional position of learning technology or educational technology developers, namely Permenpan No. 28 of 2017. The regulations are clear and detailed regarding the profession of educational technologist, including duties, responsibilities, and roles. An educational technologist must behave professionally due to their duties, position, and role, which involve interactions with others. One of the tasks and roles of an educational technology professional is that of a learning developer. Therefore, this study aims to explore the application of educational technology ethics by a learning developer within a company. Through this research, students in the Educational Technology study program, as future educational technology professionals, can understand the competencies and suitability they have developed during their studies in relation to current industry trends, particularly in the field of learning development.

# LITERATURE REVIEW

## Concept of Educational Technology

Various terms regarding educational technology have emerged from different opinions, encompassing diverse definitions and interpretations, some of which originate from the Greek language, "technologia," which, according to Webster's Dictionary, means "systematic treatment," and "techne," which is the basis for the word "technology," meaning art, skill, and science. "Instructional technology" or "educational technology" is a commonly used term in English to refer to educational technology. The Commission on Instructional Technology, as cited by Norman Beswick in "Resource-based learning" (Sinap, 2022), defines educational technology as "instructional technology refers to media born of the communications revolution that may be utilized for instructional purposes alongside the instructor, the book, and the chalkboard." Essentially, educational technology is a form of communication that is technology-supported, taking the form of what is commonly referred to as "hardware."

According to AECT from Hanum and Suprayekti (2019), educational technology is the study and practice of gold aimed at facilitating learning and improving performance through a series of processes, namely creating, using, utilizing, and managing, integrated with appropriate technological resources. Although there are many definitions of the concept of educational technology, one definition provided by AECT offers a deeper understanding of the nature and scope of educational technology. Thus, educational technology can improve the effectiveness, efficiency, and satisfaction of the learning process. Therefore, educational technology encompasses a broad, complex, and scientifically integrated scope that is closely related to the entire educational process. The main aspects include the people involved, the program, the ideas, the equipment (tools), and the organization.

Miarso, in his book titled *"Menyemai Benih Teknologi Pendidikan,"* defines educational technology as the theory and practical application that have become part of human resource development efforts, particularly in education and training systems. This suggests that educational technology has become a crucial component in the development of education and training. As for the competencies possessed in educational technology, they include (Pradhitya *et al.*, 2018):

1. Having the ability to design and develop learning or training programs.
2. Having the ability to develop and manage learning resources in various learning centers.
3. Having the ability to apply theoretical foundations and implement them in educational technology.
4. Having the ability to design and produce learning media.
5. Having the ability to evaluate learning programs, media, and products.


## Profession and Professional Ethics in Educational Technology

Before discussing the profession and professional ethics of educational technology, it is essential first to understand the concepts of profession and ethics. The term "profession" originates from the English word "profession" and the Latin word "professus," meaning "capable or skilled in a job," thereby providing a clear definition of what a profession entails. A profession is also described as a career or occupation that involves competencies acquired through specific education or training, has defined duties, and adheres to a code of ethics.

Professional work differs from other types of work because a profession requires special skills to utilize them, not just doing something without specific knowledge or haphazardly. According to Juhji and Suardi (2018), a profession is a job or position that requires specific expertise. Therefore, a profession is a job or position that cannot be performed or held by just anyone. A profession requires good preparation, whether through formal education or specialized training (Ariani, 2021; Effendi, 2021).

The word "ethics" has its own distinct meaning and significance, which varies across different opinions. One of its origins comes from the Greek language, where it is derived from the word "ethos," meaning character, disposition, morality, or custom. Meanwhile, the Latin word "ethics" comes from the word "ethnic," which means habit. Linguistically, the meaning of ethics refers to a science that examines issues of human actions or behavior, which can be evaluated as good or bad. This ethics has several parts or types, including philosophical and theological ethics. Philosophical ethics stems from philosophical thinking, while theological ethics stems from religious beliefs.

Educational technology encompasses various aspects, including the use of learning software, instructional design, and other supporting hardware (Nurmadiah & Asmariani, 2019). This profession requires a comprehensive understanding of education and technology, as well as the ability to integrate them effectively. Educational technology professionals will be responsible for designing and developing technological solutions that meet the educational needs of students. Educational technology professionals must also be able to provide training and support to teachers and students in the use of such technology.

In today's digital age, educational technology also plays an increasingly important role in improving the accessibility, flexibility, and effectiveness of learning (Purba & Saragih, 2023; Said, 2023). This profession continues to evolve in response to technological advancements and the ever-changing needs of the education sector. It is important for an educational technology professional to stay up-to-date with the latest developments in technology and education (Ambarwati *et al.,* 2021). They must also possess good communication skills and the ability to collaborate with various stakeholders, including teachers, students, and other educational staff. An educational technology professional is a field focused on using technology to enhance the learning and teaching process. This profession requires a deep understanding of education and technology, as well as the ability to design, develop, and implement effective educational technologies.


## Concept of Learning Development

In the educational process, learning development is undoubtedly necessary. According to Maâ (2018), the learning process is a change in an individual's attitude, encompassing knowledge, skills, and habits, which results from interaction with their environment. Scientifically developed learning must be strengthened with

the results of educational research, such as classroom action research (CAR). This can be linked to development goals, with the basic need for education also being a primary need for students. Therefore, the importance of learning development is not merely an educational idealism that is difficult to implement in education. Learning development refers to improving the quality of the learning process, both materially and substantively (Usiono & Amin, 2021).

The learning development process can provide educators with opportunities to update and improve their teaching skills continually. Development is a method and effort aimed at improving abilities. Development in terms of learning is a logical and systematic process for determining everything that will be done in the learning activity, while still considering students' potential and competencies. Visually, learning development is an effort to enhance the quality of learning, whether through methods, materials, or delivery methods (Ritonga *et al*., 2022). From a material perspective, this refers to the material aspects of education that are adapted to scientific advancements, such as the quality of the materials and their accessibility to students. From a methodological and content perspective, this refers to the development of theoretical and practical learning strategies that enable schools or educational institutions to plan learning activities effectively. Finally, from the perspective of delivering the learning material, such as a set of learning materials or content that is consistently and systematically organized, it provides a complete picture of the skills students acquire through learning activities. Knowledge allows a person to develop themselves and apply it in life to become better (Muktapa, 2021). The development of learning based on the advancement of science and technology has brought about changes in almost all aspects of human life, and various problems can only be solved through efforts to master and improve science and technology.

Learning development has several foundations, namely philosophical, psychological, technological, and empirical foundations (Usiono & Amin, 2021). In this context, learning development will be linked to learning media. The philosophical foundation is divided into three aspects: ontological, epistemological, and axiological. The ontological aspect, with the development of learning, enables a more comprehensive understanding of the nature of learning, as it becomes easier and enhances students' comprehension of the material presented by the teacher. The epistemological aspect suggests that using and developing learning media will provide students with access to knowledge sources. The media serves as a tool for students to generate knowledge more effectively. Axiological aspect: The axiomatic aspect is the belief that using media is beneficial for students' intellectual processes.

## Professional Ethics in the Development of Educational Technology

The profession of educational technologist is needed in various types of companies. This profession can be achieved not only by working in a company to create learning materials, but also by first learning to develop and improve skills, competencies, and professional ethics. Educational technologists have various tasks to carry out in their work. One of them is a learning developer. Every company needs an educational technologist to develop its learning programs, enabling employees to perform their jobs correctly and effectively, thereby achieving the company's goals.

To support the work and duties of an educational technologist, appropriate competencies, ethics, and attitudes are required. An educational technologist is required to adhere to an ethical code, as outlined in Permendikbud Number 21 of 2017, which establishes the Code of Ethics for Instructional Technology Developers. This code encompasses five areas: ethics toward oneself, ethics toward learners, ethics toward society, ethics toward colleagues, and ethics toward professional organizations. Ethics toward professional organizations can be demonstrated through the following attitudes:

1. Focus on the interests of the institution/organization rather than personal interests.
2. Able to avoid misuse of PTP positions within institutions/organizations for personal and group gain.
3. Must maintain confidentiality regarding institutional/organizational policies.

4. They must avoid conflicts of interest in carrying out their duties.

## Applying Professional Ethics in Learning Development Projects

Professional ethics refers to the moral principles and norms that govern the behavior of individuals in a specific profession or field of work. Professional ethics refers to the awareness of moral responsibility and integrity in performing one's job or profession, considering the interests and well-being of all parties involved (Sinaga, 2020). This includes upholding values such as honesty, integrity, justice, and respect for human rights. Therefore, professional ethics is not just about adhering to official regulations or codes of ethics issued by regulatory bodies or professional associations but also about applying broader moral principles in daily practice. Meanwhile, learning development projects are initiatives designed to improve or develop existing learning strategies, materials, or methods. Learning development projects can encompass curriculum development, the creation of learning materials, or the implementation of new educational technologies designed to enhance students' learning experiences (Mariati, 2021).

In its application, professional ethics can be demonstrated by educational technologists when developing learning materials. This is related to projects undertaken to improve the quality of education through learning media designed by educational technologists. Essentially, learning development projects play a crucial role in enhancing educators' professional development and improving the overall quality of education (Sulastri *et al.,* 2020). With the best research and practices in place, learning development projects can help schools and educational institutions continuously adapt and improve students' learning experiences.

## METHODS

This research uses a qualitative approach. Research using a qualitative approach can generate data presented in written form. With a qualitative approach, a deep understanding is needed to analyze and describe the findings meaningfully. For this research, both interview methods and library research were employed to collect the data. Library research involves a theoretical study of several scientific references relevant to the chosen topic, which serve as data sources (Batubara & Sudrajat, 2019). In this study, the researcher collected data by reading and taking notes from relevant scientific articles. Additionally, to supplement the data and describe the topic being researched, the researcher conducted interviews with two sources: a UNJ Educational Technology alumnus who is currently an employee at an educational technology company (Source A), and an active UPI Educational Technology student with experience interning at an educational technology company (Source B). The interviews were conducted online at different times but with the same set of questions. The interview results will be analyzed to become an important discussion point in this research.

## RESULTS AND DISCUSSION

### Results

### Competencies and Professional Tasks of Educational Technology in Developing Learning

An educational technologist in learning development must possess predetermined competencies, such as organizing and implementing (as a class coordinator); conceptualizing, designing, and developing media;

managing and supervising employee performance; and conducting Training Needs Assessments (Ariani, 2017). This aligns with what is happening on the ground, as stated by source A, who explained that "in this job, I manage and create training, develop modules, design e-learning and its content." Additionally, source B added that "during my work, I was asked to help facilitate classes, manage the LMS, manage grades, and so on."

Personal abilities and competencies, as well as the professional tasks of an educational technologist in developing the learning process, can be broadly divided into two categories: curriculum development and media development. The goal of the competencies and tasks of an educational technologist in the field of media is to facilitate the learning process, for example, "technical knowledge such as graphic media and articulate storylines," said source B. In accordance with this, Ariani (2017) mentions in her article that the required competencies are related to learning devices and systems, specifically developing e-learning and e-learning content, designing lesson plans, managing human resources, assisting production teams, managing training results, and producing and delivering visuals and audio. Meanwhile, the competencies and tasks required in the field of curriculum are related to designing curricula; documenting education curricula; creating modules; supervising activities; creating materials; designing learning; and improving employee performance, which aligns with what source A stated: that educational technologists are indeed required to be able to design e-learning, develop e-learning modules, understand basic learning principles, and develop learning media.

## Code of Ethics for Educational Technology Professionals as Learning Developers in Companies

Ethical codes are not only used in social settings, such as waiting in line or being honest with others, but they also exist in the workplace, commonly referred to as professional ethics. Professional ethics is a branch of ethical science that fundamentally reflects moral issues, such as values and principles inherent in the performance of specific professional functions, and must be observed by those who practice that profession (Surajiyo, 2022). Based on information from the source, in practice, many ethical practices originate from the work culture within the company or institution. Therefore, many of these work ethics are unwritten. For the professional ethics of educational technologists, they are typically outlined in employment contracts, which serve as the basis for professionalism in pursuing the profession of an educational technologist, regardless of the code of ethics established by professional organizations.

The information we obtained from the source regarding professional ethics in educational technology in the workplace, as a learning developer, focuses on communication, adaptability, and maintaining confidentiality. Communication is a means by which individuals express their opinions or ideas (Sari, 2018). These opinions and ideas will undoubtedly influence decision-making and impact the company's performance. However, in a forum for presenting ideas, there are definitely ethical considerations that must be adhered to, whether due to the work environment or respecting the differences in each individual's character. Adaptability is also necessary when performing work in a company, as the ability to adapt to the work environment and colleagues will significantly impact performance. The meaning of keeping a secret is not to spread company information, such as the curriculum used in the company, and so on. Actually, the regulations for the Code of Ethics for Educational Technology Professionals in learning development are found in Permendikbud Number 21 of 2017, which aims to improve the competence, professionalism, and integrity of educators, enhance collaboration, and develop the character of educators. This code of ethics regulation covers four areas: ethics toward oneself, ethics toward learners, ethics toward society, ethics toward colleagues, and ethics toward professional organizations.

The code of ethics in the profession is explained in more detail in Article 8, stating that the code of ethics toward professional organizations must prioritize the interests of the institution over personal interests, avoid abuse of PTP positions, maintain confidentiality regarding institutional/organizational policies, and

avoid conflicts based on Permendikbud Number 21 of 2017. Some of the points mentioned above align with the interview results, namely that all respondents, both respondent A and respondent B, who are learning developers, prioritize the company's interests over personal interests and maintain the confidentiality of company policies, such as not sharing the curriculum used within the company with others, not sharing training results outside the company, and so on. Speaker B also added that when choosing a job, they always prioritize their guiding principle: "I do not want to work for a company or in a position whose business leads to something less than good," said Speaker B. As a learning developer within an organization, it is crucial to uphold high ethical standards. It is not just because it is stated in ministerial regulations or employment contracts, but ethical codes are a part of human life.

**Attitude of Educational Technology Professionals Toward Colleagues**

The professional attitude of an educational technologist is an important aspect that influences interaction and collaboration among practitioners. One aspect that requires attention is maintaining a professional attitude when interacting with colleagues or peers. A good educational technologist's attitude when interacting with colleagues is the primary foundation for building a harmonious and productive work environment (Jannah et al., 2024). This is supported by source B, who stated that when working, we focus, do not talk much unless it is important, and certainly do not make any noise that would disturb others. In the context of educational technology, collaboration among practitioners is essential for developing innovations, sharing knowledge, and supporting professional growth. Without a good professional attitude, collaboration among practitioners can be hindered, which in turn impacts the quality of teaching and learning (Suhaimi & Efendi, 2018).

Several factors influence professional attitudes toward collaborating with colleagues. Some of these include effective communication, mutual trust, respect, the ability to work together, and a willingness to learn from colleagues (Batubara, 2018). Additionally, personal factors such as personality, values, and experience also influence professional attitudes when interacting with colleagues (Mulyawan, 2012). Speaker A also noted that professional conduct with colleagues, such as maintaining company confidentiality, is crucial for fostering mutual trust. Good professional conduct in collaborating with colleagues has a significant impact on improving the quality of teaching and learning (Hidayati *et al*., 2023). With a good professional attitude, practitioners can support, motivate, and inspire each other. This can also foster a positive and productive work ecosystem, thereby promoting innovation and personal development.

**Discussion**

Data analysis was conducted by categorizing the data, which involves selecting existing data according to the instrument used. Based on the data analysis results, it was found that an educational technologist needs to possess competencies in curriculum and media. With this, educational technologists can develop learning at both the school and training levels. From the two sources, it was found that both had good competence in both curriculum and media to support their careers in the company. Therefore, for Educational Technology students, as future educational technology professionals, it is essential to develop their competence in both curriculum and media to meet future career needs. A person's competency achievement can be observed in their skill at performing a task (Nguyen, 2020; Ridwan *et al*., 2022; Rosyiddin *et al.,* 2023). Although in reality, there are still a few Educational Technology students who have sufficient ability to master the curriculum and media, the majority tend to choose one competency to master. In the study by Susanti et al. (2018), it was revealed that Educational Technology students stated that basic teaching skills correlate with competence in the field of educational technology, specifically in creating, designing, selecting, and using learning tools, such as learning media. Additionally, the

competencies possessed can be utilized to manage and evaluate learning, provide instruction, and implement educational technology. However, at least Educational Technology students have a foundation in curriculum and media competencies.

The competencies that educational technology students need to possess will provide opportunities to work as educational technologists. The profession of educational technology is similar to other professions that have a code of ethics for carrying out their duties and responsibilities. In this case, the profession of educational technologist, which involves working with many people and across various fields, requires possessing good interpersonal skills, particularly in communication, to avoid misunderstandings regarding the learning process being developed. An educational technologist must be adaptable so that the developed learning can be appropriate and suitable for the learners. Then, an educational technologist needs to maintain the confidentiality of both the company and the students, thus fostering professional and corporate accountability.

It appears that the competence and abilities of an educational technologist should be complemented by an attitude that fosters collaboration with colleagues within the company. The attitude of an educational technologist when dealing with colleagues in the company should be one of being aware of their position and respecting it. In this way, the relationship between an educational technologist and colleagues can be maintained through collaboration on learning development, fostering mutual trust and responsibility. Good relationships between people can foster a spirit of cooperation among employees or organizational members, helping them achieve company goals. The results of this study are consistent with the conditions of the two informants, who clearly explained their roles as learning developers. This research focuses on the profession of educational technologist within companies, who have duties and responsibilities toward themselves and their colleagues.

## CONCLUSION

From the discussion regarding the results of interviews with sources, it can be concluded that the profession of educational technologist, especially in the area of learning development, requires a code of ethics that demonstrates their attitude and responsibility toward themselves, students, society, colleagues, and the company for which they work. Professional ethics play an important role in helping someone adapt to a place. In addition to having good knowledge and skills, educational technology professionals must also have a good attitude to enter the work environment. This will affect whether someone is accepted in a new place. Additionally, the knowledge, skills, and ethics provided during their time as Educational Technology students will be very useful and will always be relevant to the conditions of the educational technologist profession when they are in a company. Therefore, educational technology students need to correctly understand the competencies and code of ethics they need to possess and master to support their future careers.

## AUTHOR'S NOTE

It can be confirmed that the writing of this article does not contain any elements of plagiarism. Every reference embedded in the article is included in the bibliography. The author provides the identity for each reference used in this article. This article is the original work of the authors, so the authors believe it does not harm any party.

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