Relevance of educational technology competence as human resources in the apprentice industry

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ABSTRACT
The profession of an Educational Technologist in Indonesia is increasingly diverse; by looking at the fundamental conceptions of Educational Technology and current employment developments, the urgency of this profession is starting to be recognized by the government. This is evidenced by the ratification of the Peraturan Menteri Pendayagunaan Aparatur Negara Nomor: PER/2/M.PAN/2009 tentang Jabatan Fungsional Pengembang Teknologi Pembelajaran dan Angka Kreditnya. To deal with this, Educational Technology scholarship must be able to anticipate it in a more systematic and systemic provision so that it can overshadow the professions in the field of Educational Technology. This study aims to determine the implementation and relevance of Educational Technology competencies by further examining the Human Resource profession in the Apprentice Industry Sector based on facts that occur in the world of work. This study uses a qualitative method with a descriptive approach. The data source was obtained from interviews with three respondents: three educational technology study program students doing internships in related professions. The research results found that Educational Technology's role in human resources is related to the operational function of development. Educational Technology is related to designing, preparing, implementing, and evaluating training programs to develop employee skills and performance.

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INTRODUCTION

Profession is a word closely related to one’s skills and education. According to the *Kamus Besar Bahasa Indonesia* (KBBI), the profession is defined as a field of work based on specific skills education. Meanwhile, The American Heritage School Dictionary contained in Ariani (2017) notes that a profession is a job in everyday life that requires a combination of education and skills or proficiency in a particular field. Then, the definition of Educational Technology also continues to evolve. According to Elihami & Saharuddin (2017), the Association for Educational Communications and Technology (AECT) in 2004 defined educational technology as a field of knowledge and ethical practice focusing on improving learning performance by optimizing creativity, usability, and manageability of an input, the process to learning output. In line with this definition, Januszewski and Molenda 2008 in Achyanadia (2016) define educational technology as an ethical study and practice that has the aim of facilitating learning and improving performance by creating, using, and managing according to its technological resources.

Educational Technology is one of the professions in Indonesia that has fulfilled the characteristics of a profession, namely by having good academic ability requirements, requiring a professional value or performance benchmark, and efforts to improve one’s performance abilities. The Educational Technology Profession in the world of work has existed since 1970 until now. Educational technology is often used in the education system, starting with only focusing on efforts to clarify the delivery of a message or learning information with the help of various existing media now, the Educational Technology profession continues to develop in all aspects to create a learning process for society. Educational technology is the study and ethics of practice to facilitate and improve learning performance (Akbar & Noviani, 2019). According to Warsita (2017), this educational technology also aims to provide a concrete answer in facilitating the learning process through technological processes, technological resources, and improving teacher quality. Not only limited to technology in the form of hardware that supports the learning process to be effective and efficient, but educational technology is also related to the software and brainware used (Syafriafdi, 2020).

As a profession, the professionalism of Educational Technology is shown by using a code of ethics, the relevance of the task, and the existence of the profession is recognized by the wider community. According to Putra et al. (2021), a code of ethics usually includes ethics towards oneself, learners, society, colleagues, and professional organizations. Ethics is needed to limit behavior to remain by the morals in society (Harris, 2021). General Competency of Educational Technology generally contains the ability of Educational Technology graduates to design and create designs, develop, utilize, manage, and evaluate resources, processes, and systems, as well as learning patterns. Meanwhile, the competencies of a Bachelor of Educational Technology generally contain the ability to 1) primary various kinds of new ideas, especially in learning and learning contexts, 2) design and implement a program and learning system, 3) design, produce, and utilize various types of media in assisting the learning and learning process, 4) facility management in the form of facilities and infrastructure in learning and learning, 5) expanding the stages of using a learning resource during the learning process (Fitri, 2013). In addition to all these things, the educational technology profession is also related to the word "teaching". Even
though they are not directly involved in the teaching process, these basic teaching competencies should also be owned and implemented by someone who works as an Educational Technologist. In addition, the existence of a Learning Technology Development Functional Position is one proof of public recognition for the Educational Technology profession legally. The Learning Technology Developer Profession (PTP) contains six main tasks that are directly integrated with the components of the learning resources themselves, which include people, content or materials, media, tools, methods, and the environment (Based on Peraturan Menteri Pendayagunaan Aparatur Negara Dan Reformasi Birokrasi Tentang Jabatan Fungsional Pengembang Teknologi Pembelajaran Dan Angka Kreditnya Nomor PER/2/M.PAN/3/2009, 2009).

Peraturan Menteri in 2009 was then corrected and refined again through Peraturan Menteri Pendayagunaan Aparatur Negara dan Reformasi Birokrasi Republik Indonesia Nomor 28 Tahun 2017, this improvement occurred because there was an incompatibility of the Functional Position of Learning Technology Developer in the form of accumulated activity values that must be achieved by a functional with the development competency requirements in the world of work. Based on this new regulation, the competencies of the Learning Technology Developer profession tend to have a small scope within the reach of the PTP profession. However, there is no need to be discouraged because until now, the educational technology profession has not only played the role of the state civil apparatus (ASN) but has also developed rapidly in various other private sectors. One of the factors that encourage the diversity of educational technology graduate professions is the distinctive characteristics of each Educational Technology Study Program at various tertiary institutions.

Based on the description of the field of work on Educational Technology above, it is obtained that the Educational Technology profession is not only a state civil apparatus (ASN) within the scope of Government but can also be involved in various other fields, such as health, business and industry, schools, as well as society. That way, whatever the field, the Educational Technology profession has an important mission in creating and disseminating innovations, especially in the field of teaching and learning, with the aim of improving the quality of human resources and education itself. In meeting the demands of this field of work, a graduate of the educational technology study program needs to develop the abilities he has acquired. One way for students to develop the competencies acquired during lectures is by participating in Magang dan Studi Independen Bersertifikat (MSIB) issued by the Directorate General of Higher Education. In this MSIB program, students can go directly into the professional world to hone their competencies (Suryatno, 2022). That way, students can have provisions in preparing their career path in the future.

Based on the competencies possessed by an educational technology graduate in the MSIB program, educational technology students can choose professions related to performance technology, media development, and learning designers (Ariani, 2017). The professions related to performance technology are (1) development of training curriculum, (2) academic training, (3) Human resources, (4) Organizational Systems and SOPs, (5) preparation of training materials, (6) training curriculum consultants, etc. Then professions related to media development can be (1) media designer, (2) learning media developer, (3) web developer and e-learning, (4) media script writer, (5) cameraman and audio man, (6) videographers and photographers, (7) production teams, (8) learning resource
developers, (9) multimedia development, (10) media evaluators, and so on. And finally, professions related to learning designers, namely (1) training instructions, (2) educational consultants, (3) educators, (4) curriculum developers, (5) learning program developers, (6) learning program evaluators, and others.

In implementing Educational Technology, there are various job prospects. Starting from performance technology, media developers and learning designers can apply directly how to facilitate learning and much more. However, for graduates of this educational technology study program, many still work not in accordance with their role as educational technologist. With graduates whose work is less relevant to educational technology, it certainly requires different competencies from those obtained during lectures. In addition, this research was carried out because currently, the availability of jobs in educational technology is minimal if not properly traced. Many of the jobs are taken by other study programs.

The problem in this study is limited to the suitability of Educational Technology competencies with the work of Educational Technology apprentice students to see the relevance of the competencies taught in lectures to the competencies needed in the industry. This study aims to look at the roles and tasks of educational technology in the Human Resources profession, what competencies are needed in the human resources profession, and what problems often arise in carrying out the human resources profession. With this research on educational technology apprentice students, a comparison can be seen on the suitability of these professional competencies with those developed in lectures in the Educational Technology study program.

LITERATURE REVIEW

Educational Technologist Profession

The terms Profession, Professional, and Professionalism are often used in daily conversation and in various writings in the mass media, scientific journals, and textbooks. However, the meanings given to these terms are pretty diverse when the word is used to refer to a permanent job. According to the Kamus Besar Bahasa Indonesia (KBBI), the profession is defined as a field of work based on certain skills and education. Meanwhile, The American Heritage School Dictionary contained in Ariani (2017) notes that a profession is a job in everyday life that requires a combination of education and skills or proficiency in a particular field.

Over time, the existence of the Educational Technology profession has begun to be recognized by the Indonesian people. This can be seen from the number of jobs provided for the Educational Technology profession. In the industrial era 4.0, educational technology played an important role in the educational revolution. Educational technologists, as educational staff and educators, must be able to facilitate learning and improve performance both individually, in groups or organizations, at any age, anytime and anywhere, with any material/regarding anything (Budiharto et al., 2019; Surani, 2019). With the development of learning media and the creation of new learning models, the complexity of the field worked on by educational technologists, namely Learning Technology Developers (PTP), is getting bigger (Warsita, 2017). Also, many universities
have started to open Educational Technology Study Programs. As a profession, the professionalism of Educational Technology is shown by using a code of ethics, the relevance of the task and the existence of the profession is recognized by the wider community. According to Putra et al. (2021), a code of ethics usually includes ethics towards oneself, learners, society, colleagues, and professional organizations. The personal code of ethics for learning technology developers requires the realization of attitudes, namely honesty, creativity and innovation, professionalism, collaboration, independence, lifelong learning, and openness to change (Putra et al., 2021).

In addition to this, the existence of a Learning Technology Development Functional Position is one proof of public recognition for the Educational Technology profession legally. The Learning Technology Developer Profession (PTP) basically contains six main tasks that are directly integrated with the components of the learning resources themselves, which include people, content or materials, media, tools, methods, and also the environment (Based on Peraturan Menteri Pendayagunaan Aparatur Negara Dan Reformasi Birokrasi Tentang Jabatan Fungsional Pengembang Teknologi Pembelajaran Dan Angka Kreditnya Nomor PER/2/M.PAN/3/2009, 2009). This Peraturan Menteri in 2009 was then corrected and refined again through Peraturan Menteri Pendayagunaan Aparatur Negara dan Reformasi Birokrasi Republik Indonesia Nomor 28 Tahun 2017, this improvement occurred because there was an incompatibility of the Functional Position of Learning Technology Developer in the form of accumulated activity values that must be achieved by a functional with the development competency requirements in the world of work. Placing PTP human resources as an asset or capital (human capital) in learning technology development organizations in Indonesia is the main thing (Susilawati, 2015). However, based on this new regulation, the competencies of the Learning Technology Developer profession tend to have a small scope within the reach of the educational technologist profession (PTP).

The educational technologist profession is a profession that still has many other considerations, such as social, cultural, economic, and engineering influences, so its actions must be in harmony with the situation and conditions and oriented towards the future. The government's acknowledgment has opened up opportunities for the position of learning technology developers at all levels of educational units to become a necessity. The learning technology developer's task is to handle curriculum implementation and development and to assist lecturers or teaching staff in creating quality, effective, and efficient learning (Suryani & Mushadad, 2017). Professional educational technologists are experts and/or proficient in teaching students by systematically integrating the components of learning facilities, including people, teaching content, media or teaching materials, equipment, techniques, and the environment. The implication is that with educational technology professionals, students can learn more flexibly, independently, anytime, and anywhere without being limited by space and time (Hasibuan, 2015; Lestari, 2018).

Performance Technology

Performance technology is part of Educational Technology, where performance technology improves the quality of human resources and organizations by designing and developing effective interventions. Stolovitch & Keeps (1992), in their book entitled Handbook of human performance technology: A comprehensive guide for analyzing and solving
Performance problems in organizations, define performance technology as "Human Performance Technology (HPT) is a field of practice that has evolved largely as a result of the experience, reflection, and conceptualization of professional practitioners striving to improve human performance in the workplace". Meanwhile Pershing (2006) in his book entitled Human performance technology fundamentals states that "Human Performance Technology is the study and ethical practice of improving productivity in organizations by designing and developing effective interventions that are result-oriented, comprehensive and systemic". Performance technology is a process of increasing competency by humans and organizations to improve productivity and efficiency of work results based on developing a systemic and systematic system. Performance is about doing the work and the results achieved from the work. Performance is about what is done and how to do it (Iskandar, 2018). Performance technology can be achieved optimally if there is support from the organization as a place of learning (Fitriansyah, 2018). Thus, performance technology takes more into account the achievement of work and organizational success, is systemic and systematic, and has the goal of meeting demand, improvement, skill management, and others.

Based on this definition, performance technology is a field that is constantly developing as a form of experience, reflection, and conceptualization of experts who focus on improving performance by analyzing, designing, developing, implementing, and evaluating. One of the ways to improve performance in organizations is to design and develop effective, result-oriented, comprehensive, and systemic interventions. The task of performance technology is to look for problems why individual or group performance can decrease, then look for solutions to solve these problems, this is done by identifying problems that occur, both in terms of behavior within the scope of individuals or organizations, then carry out an analysis that produces problem-solving that can motivate concerned parties and evaluation of organizational performance.

Each performance cannot stand alone, and each is a combination of performance systems, behavioral psychology, information and feedback systems, organizational development, human resource management, and other information systems. Performance technology always carries out several stages before implementing appropriate interventions, namely conducting an analysis of organizational needs, designing interventions according to what the organization needs, and evaluating these two stages before implementing interventions. By carrying out these stages, performance technology can determine the best, appropriate, effective, and efficient interventions to improve organizational performance. Efforts to adapt to the organization encourage a performance technologist to be open, work with all parties, and examine all elements of the organization, such as selection and recruitment, incentives, regulations and policies, and so on (Ali & Erihadiana, 2021).

The main purpose of Performance Technology in an organization, according to Stolovitch & Keeps, is to introduce performance technology as a means of using the application, which aims to provide valuable performance rewards to someone where he works. Performance Technology is being introduced as a significant application field leading to the value of performance gains in the workplace. Performance technology is systemic, systematic, based on proven knowledge and experience, can use various means, methods, and media, and focuses on the results of one's performance and an organization's value system.
METHODS

The research was conducted using qualitative methods. The descriptive method is considered suitable for this study because descriptive analysis is used when research is conducted to determine the value of the independent variable without comparing or connecting it with other variables (Tanjung et al., 2020). The researcher tried to describe the phenomenon under study by involving three respondents, namely three UPI educational technology students who were doing internships. The three respondents underwent tasks and responsibilities in more or less the same progression. Data were collected in two ways, namely structured interviews and documentation studies. Interviews were conducted using a question instrument that the researcher arranged according to the limitations of the problem being studied. The three respondents were interviewed three times using the same question instrument. According to Sugiyono in Nilamsari (2014), documentation study complements the use of observation and interview methods in qualitative research. The research will be more credible if it also uses documentation studies.

RESULT AND DISCUSSION

Peran dan Tugas Teknologi Pendidikan dalam Profesi Human Resources

The human resources profession is a profession related to the process of managing human resources in an organization. Human resources have an essential role in helping organizations or companies to have quality human resources (Almasri, 2016; Susan, 2019). In human resources, there are five operational functions (1) Organization Development (OD), namely the HR function as HR needs planning; (2) Attract, namely the HR function in terms of staffing; (3) Develop, namely the HR function in terms of learning and people development; (4) Motivate, namely the HR function in terms of performance appraisal; and (5) Retain, namely the HR function in terms of the effectiveness of work relations (Priyono, 2010).

Researchers have conducted interviews with UPI Educational Technology students who are currently doing internships in the field of human resources. Based on the results of the interviews that were conducted, the three students stated that the role of Educational Technology in the area of human resources is related to the operational function of development, whereas the part of Educational Technology is related to designing, preparing, implementing and evaluating training programs to develop employee skills and performance. This is in line with what was said by Priyono (2010), that development is centered on activities to determine, design, implement, and evaluate HR training and development programs to improve the capabilities and performance of human resources in organizations and companies. To create quality human resources, changes are needed in the existing learning system so that it is effective and efficient (Achyanadadia, 2016).

Then, from this role, specifically our three informants explained that the tasks they carry out in the field of human resources development can include listing training, listing the availability of syllabi and media (training materials), making syllabi, making media...
(training materials), making competency dictionaries, conducting training, and evaluating training programs. The information obtained from this source is in line with what was said by Wartomo (2018) that the task of Educational Technology in developing human resources includes (1) conducting a needs analysis; (2) designing a syllabus and assessment system; (3) production of teaching materials or training; (4) implement the design of the training program that has been made; and (5) evaluating training programs.

Competence of Educational Technology Graduates as Human Resources

Human Resources (HR) in the context of an organization is one of the important things because, without HR, organizational goals will not be achieved. To achieve competent human resources in their fields, of course, management is needed to ensure that an organization has the right workforce available to occupy various positions, functions, and jobs according to needs (Hadianti, et al., 2017). One of the management processes in an organization, of course, will be related to HR through the management and role of human resources in the organization aimed at competency-based human resource management. The development of human resources is one of the elements of human development (Maghfiroh, 2021). Current individual performance is more important than past performance, so a change in the management paradigm to become a professional must emphasize a certain level of competence, as other individuals in the organization must have the competencies needed for a human resource to be successful in managing individuals or groups within the organization.

A human resource, in fulfilling his role, must have competence, which is a set or combination of skills, knowledge, attitudes, and behavior (Muizu & Sule, 2017). According to the information the researchers obtained from the three informants regarding the competencies needed to become human resource staff, especially the development section, namely in communication skills, collaboration, TNA (Training Need Analysis), syllabus development, development of training materials, and much more. Furthermore, in more detail, resource person F said that the main competencies that are really needed are in the curriculum and media. In the realm of the curriculum itself, the competencies required are mastery of various matters related to the four learning components, while in the realm of media, the competency required is mastery of the production of several media, such as graphic media, video media and photo media. In addition to skills and knowledge, aspects of personal qualities are also of particular concern in human resources development. The human resources that need to be developed are in terms of cognitive, affective, and psychomotor, or spiritual attitudes, social attitudes, knowledge, and skills (Mardhiyah et al., 2021; Nafiati, 2021).

In the field of human resources development, according to the three informants, graduates of Educational Technology often intersect with graduates from psychology, industrial management, and industrial engineering study programs. The intersection here occurs because of the lack of existence of the Educational Technology study program in the world of work, and some knowledge is not learned in the Educational Technology study program. Resource person Y explained that his fellow interns from the psychology, management, and industrial engineering study programs had more insight into individual development and industrial management. However, the three informants agreed that the competencies

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obtained from courses in the Educational Technology study program were quite comprehensive and almost all relevant. Some examples of relevant courses are Human Resource Management, Education and Training Program Design, E-learning, Teaching Material Development, Learning and Program Evaluation, and Performance Technology.

Then, according to resource person F, another competency that must be possessed by an Educational Technologist in developing human resources is competence regarding pedagogic and andragogic sciences. Pedagogic and andragogic competencies here relate to teaching skills. Teaching skills in developing human resources are used as training in a training program. This opinion is in line with the words of Miarso in Achyanadia (2016), which explains that conceptually, educational technology plays a role in teaching humans and is also in line with the results of research conducted by Susanti et al., (2018), which says that basic skills in teaching are very important for owned by graduates of Educational Technology.

Thus, these competencies can meet organizational needs in managing human resources based on performance as human resources develop staff. It is also related to one of the goals of the organization, namely that there is a good alignment between the strategy and goals of the organization with the specific expertise of employees.

**Barriers in the Human Resource Profession**

Of course, there will be many obstacles and challenges in every profession. In the Educational Technology study program, it is often taught to continue to develop according to the demands and needs in the field to produce graduates who continue to innovate and be professional in solving challenges and obstacles in every task they carry out. From the information obtained from the three informants, it was conveyed that the obstacles and challenges experienced in the human resources profession, especially in the development section, were not caused by any misconceptions about Educational Technology. However, these challenges come from other things related to internal and external obstacles.

The Resource Person Y conveyed the obstacles he had experienced as an intern in the field of human resources development, namely when collaborating with a Subject Matter Expert (SME), which required Resource Person Y to be critical and fast in learning and understanding material and terms in the industrial world that had never been studied (foreign). Furthermore, resource person P conveyed that the obstacles experienced during the apprenticeship were the length of time providing verification and feedback by users and the existence of a procedural system that could have been more effective. Finally, resource person F conveyed the obstacles experienced during the internship, namely in the form of external obstacles in the form of cooperation and communication problems regarding the division of job descriptions where there was an imbalance in the weight of the tasks assigned to each intern, while internal obstacles were in the form of the need for adaptation to the company’s organizational system and culture.
CONCLUSION

The role of educational technology in human resources relates to the operational function of the development section. This is shown by the results of research, which says that Educational Technology plays a role in designing, preparing, implementing, and evaluating training programs to develop employee skills and performance. The specifications for the tasks carried out by Educational Technology in fulfilling its role as a human resources developer are conducting need analysis, making syllabus and training materials, implementing training programs, and evaluating training programs.

The competencies that must be possessed by Educational Technology graduates in developing human resources are fundamental communication skills, collaboration, TNA (Training Need Analysis), syllabus development, development of training materials, and personal qualities. In addition, the competency that must be met in becoming human resources developer is that one must master insight into the world of the industry as well as pedagogical and andragogical competencies related to teaching skills. These competencies are the primary key to meeting organizational needs in managing human resources based on performance as human resources develop staff. In addition to these competencies, the ability to adapt to the demands of the given performance and the work environment in an organization or company, which, of course, has a different culture, is also needed.

The human resources profession, especially in the development section, is certainly a career opportunity that can be a good choice for graduates of the Educational Technology study program. However, despite this, some obstacles and challenges need to be faced. These obstacles can come from other things related to internal and external obstacles from the work environment as well as systems and culture within the organization or company.

AUTHOR'S NOTE

The author confirms that the data and content of the article are free from plagiarism.

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