Professional Educator in the Era of Society 5.0: Primary Education Alumni Competence

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Disruption due to the industrial revolution 4.0 gave rise to a new era known as Society 5.0. With the advent of society 5.0, universities are led to prepare competent graduates to face this era. This research aimed to determine the competencies of Universitas Terbuka graduates as professionals educator in the era of society 5.0. This research used a descriptive qualitative method with a purposive sampling technique. Purposive sampling was used to determine the participant of this research. The participants were 173 graduates of the Primary education department from the Universitas Terbuka in Indonesia. The data was collected using an online questionnaire because participants were spread throughout Indonesia. The research results obtained some of the main skills of the 21st century, namely leadership skills, digital literacy, communication, emotional intelligence, pedagogy, global citizenship, team working, and problem-solving.

INTRODUCTION

Society 5.0 is a society that can solve various challenges and social problems by utilizing multiple innovations that were born in the era of the industrial revolution 4.0, such as the Internet of Things, Artificial Intelligence, Big Data, and robots to improve the quality of human life (Huang et al., 2022; Setiawan et al., 2022). The era of super smart society (society 5.0) itself was created as an anticipation of the disruption caused by the industrial revolution 4.0, which caused complex and ambiguous uncertainty (VUCA) (Rachmadtullah et al., 2020; Tavares et al., 2022). It is feared that the invasion could erode the values of human character maintained so far.

FIGURE 1
THE ILLUSTRATION OF THE TRANSFORMATION ERA FROM SOCIETY 1.0 TO 5.0
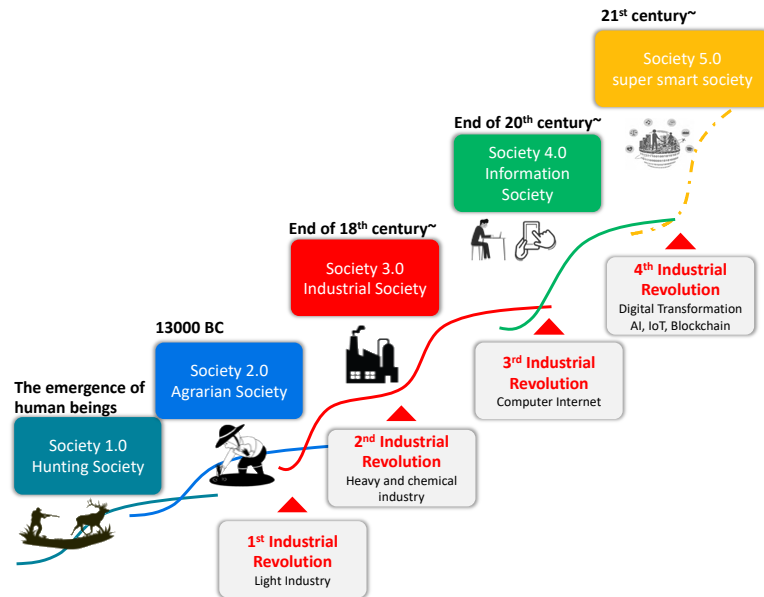
Society 5.0 does not appear immediately but comes from the impact of technological developments created by humans. The First industrialization, hunting, and gathering societies are called societies 1.0. The second industrialization is Society 2.0, formed based on agricultural development. The third, societies 3.0, promote industrialization through the industrial revolution, enabling mass production, and societies 4.0 are information societies conscious of increasing added value by connecting intangible assets as an information network. In this evolution, Society 5.0 is an information society built on Society 4.0 to enhance the well-being of underprivileged populations (M. M. Nair et al., 2021; Sumantri et al., 2022). An illustration of the transformation era society 1.0 to 5.0 can be presented in Figure 1.

Universities are required to be able to produce quality human resources so that they can compete to face the era of society 5.0. This reason is that whether or not the face of our education is good in the era of society 5.0 is determined by the teacher as an agent of change who has a very strategic primary role (Niko Sudibjo et al., 2019; Sumilat et al., 2022). The Department of Primary Education at the Universitas Terbuka is one of the producers of teacher graduates expected to become professional educators in society 5.0. Graduates' competencies (21st-century life skills) include leadership, digital literacy, communication, emotional intelligence, pedagogy, global citizenship, teamwork, and problem-solving (Tuazon & Sumadsad, 2022; Yudha et al., 2020). Therefore, university graduates need to be monitored to determine the quality of graduates who can compete in the era of society 5.0.

Tracer Study, an alumni survey, or a "follow-up" survey, is a study of graduates of higher education institutions (N. Anggraini et al., 2019; Sari et al., 2020). Tracer Study is also useful for universities in providing necessary information regarding data from graduates, including graduate competencies. Several studies related to tracer studies have been carried out. Sumadhinata et al., in their research, conducted a tracer study to see the quality of graduates in the world of work (Sumadhinata et al., 2019). Ssekamatte et al., in their research, explore the extent to which the acquisition and application of new competencies applied by universities to graduate outcomes (Ssekamatte et al., 2022). Then, Kumakech et al. conducted a tracer study to see graduates' competence to expand their competence in surgical and newborn midwifery care (Kumakech et al., 2020). Modise also conducts tracer study research to know the suitability of the competencies possessed by graduates in the world of work (Mmab Modise, 2016; Supena et al., 2020).

From some of these studies, it can be shown that it is important for a university to conduct a tracer study. In addition, the competence of the society 5.0 era is also important for graduates, especially teachers.

Therefore, this study looks at the competencies possessed by graduates of the Department of Primary Education, Universitas Terbuka, as professional education in the era of society 5.0.

METHODS

Research Model

This research adopted a qualitative descriptive research method concerned with identifying the findings without data manipulation or other types of treatment. Qualitative descriptive research is a research method that utilizes qualitative data, is described descriptively, and is often used to analyze events, phenomena, or social circumstances (Iasha et al., 2022; Trifena Tarusu et al., 2022). Qualitative descriptive research is a combination of descriptive and qualitative research. This qualitative descriptive method was used to describe the results of tracer studies from alumni related to their competencies after graduating as professional educators in the era of society 5.0.

Participants

The research participants comprised 173 graduates from the Department of Primary Education, Universitas Terbuka, from various regions in Indonesia. The participants of this research were chosen by purposive sampling method. Purposive sampling is a sampling technique that assesses the sample among the selected population (Iasha et al., 2019; Zulela et al., 2022). The demographics of the participants in this research are shown in table 1.

TABLE 1
THE DEMOGRAPHICS OF THE PARTICIPANTS IN THIS RESEARCH

No.	Information		Frequency	Percentage (%)
1.	Gender	Male	58	33.53
		Female	115	66.47
2.	Age	21-30	55	31.79
		31-40	68	39.31
		41-50	47	27.17
		51-60	3	1.73
3.	Province	Aceh	14	8.09
		Riau Island	26	15.03
		West Sumatra	5	2.89
		Lampung	10	5.78
		Jakarta	15	8.67
		West Java	27	15.61
		Central Java	15	8.67
		Yogyakarta	11	6.36
		East Java	15	8.67
		East Nusa Tenggara	10	5.78
		Maluku	5	2.89
		Papua	9	5,20
		Foreign	11	6.36

Research Instrument

In this research, a questionnaire of 5 topics was used to obtain information about the competencies possessed by the Department of Primary Education alumni as professional educators in the 5.0 era of society. The questionnaire collects data by asking a list of written questions (Braun et al., 2021; Febriyanti et al., 2022).

Data Collection Process

The data in this study were obtained from the distribution of online questionnaire forms to the Primary Education Department alumni, Universitas Terbuka. Online data collection is carried out because of the domicile of students who come from various regions in Indonesia. The questionnaire form was used to find information about the competencies possessed by the Primary Education Department alumni as professional educators in society 5.0.

Data Analysis

Miles and Huberman developed the triangulation approach to examine the research data. Then, data reduction, data presentation, data conclusion, and verification are tasks involved in data analysis. (Miles et al., 2018). Miles and Huberman's Interactive Data Analysis Model is shown in Figure 2.

FIGURE 2
THE TRIANGULATION APPROACH DEVELOPED BY MILES AND HUBERMAN
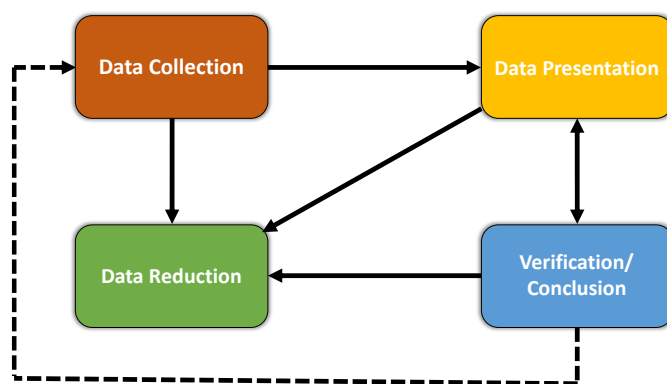

FINDINGS AND DISCUSSIONS

In this research, the questionnaire was distributed to alumni from various regions in Indonesia to obtain data. Five topics are discussed: organization, mastery of the subject course, character values, literacy skills, and discussion forums.

Organization

We frequently see organizations around us, from those in schools like OSIS to those at the village level like Karang Taruna to those on campus like the Student Executive Board, Student Association, and other student organizations. Especially in the university, student organizations are a place for students to develop their capacity as leadership competencies, teamwork, and problem-solving abilities (Schafer et al., 2020; Setiawan et al., 2017). It can be seen that by joining student organizations, students' experience in developing soft skills competencies can increase. Therefore, students need to follow the organization during lectures.

In this tracer study, one of the topics asked was student participation in organizations during lectures. Figure 3 shows the percentage of students who joined the organization while at university.

FIGURE 3
STUDENT PARTICIPATION IN ORGANIZATIONS
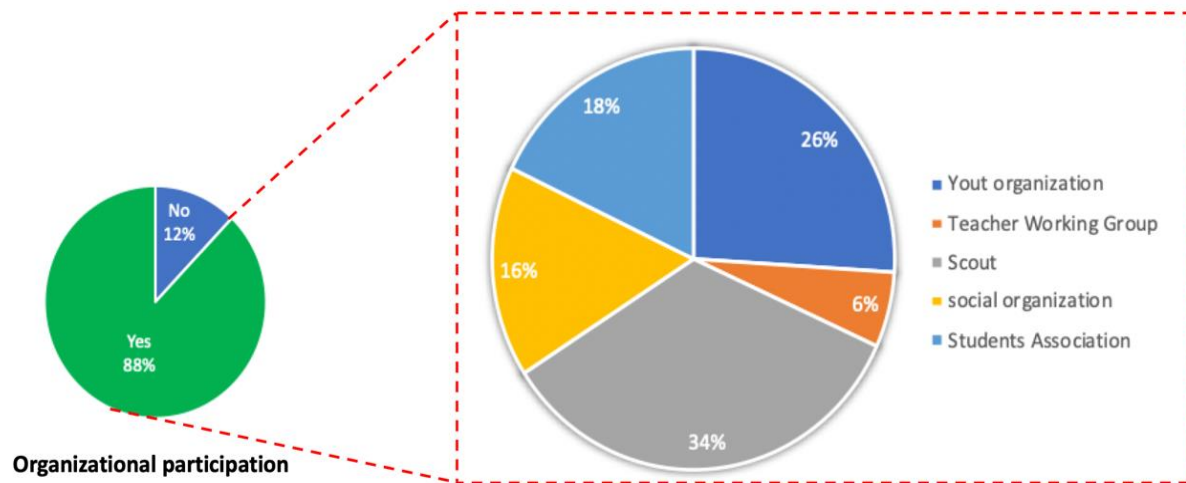
In welcoming the era of society 5.0, graduates, especially in education, the pre-service teacher must have the competencies needed to become professional educators. The tracer study results in Figureshowows that most graduate pre-service teachers have participated in various organizations while at university. The competencies gained when joining the organization are leadership, problem-solving, teamwork, and communication. This opinion aligns with the research of Smist and Rosch et al., who explained a positive relationship between leadership competence and organizational participation (M Rosch & Nelson, 2018; Smist, 2020). The following are the results of several interviews with respondents regarding the benefits of joining the organization while at university:

> *While in college, I joined the scout organization. I have gained a lot of knowledge from teamwork, leadership training, and communication skills (respondent 5)*

> *I joined a student association organization. There I learned a lot of knowledge through work programs that were carried out to improve the competencies I needed for the world of work, such as leadership, teamwork, problem-solving skills, and communication (respondent 25).*

Mastery of Subject Matter

Undergraduate students, primarily graduate primary school teachers, must know their subject of study to enter the workforce. We know an elementary school is where students get the foundation of knowledge (Abelairas-Gómez et al., 2020). Therefore, mastery of material for educators in elementary schools must be possessed to become professional educators in the era of society 5.0. The materials that graduates must master are six courses in the field of studies: Mathematics, Natural Science, Social Science, Language, Civics, and Pedagogy. Figure 4 shows the level of understanding of graduates in 6 courses.

FIGURE 4
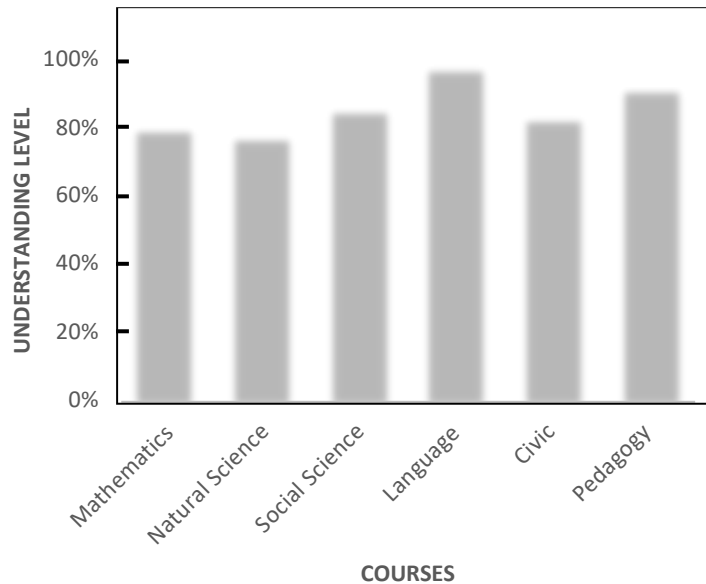**THE UNDERSTANDING LEVEL OF THE ALUMNI ABOUT THE COURSES**

Figure 4 shows that the graduates have mastered the core learning material in primary school teacher education. In society 5.0, teachers must be learning material providers and inspirations to grow students' creativity (Fukuda, 2020). Therefore, the basis of knowledge must be possessed by graduates to become facilitators in the learning process. Because in facing the era of society, educators must make two things: adaptation and competence (Darmaji et al., 2019). Innovation in learning must be used so that mastery of the pedagogical context must also be considered. The data is strengthened from the results of several interviews with the respondents as below:

> After graduating from college, I mastered several subjects, such as mathematics, natural sciences, social sciences, languages, and teaching science (pedagogy). This knowledge helped me become a professional teacher, especially now that we have entered the era of society 5.0 (respondent 13).

> When I teach, mastering the material helps me be more innovative in facilitating students. Moreover, in society 5.0, teachers are no longer required to provide material only as student facilitators (respondent 25).

Character Values

Along with the rapid development of technology that has entered the era of the industrial revolution 4.0, it is worth paying attention to the disruption of the character of educators and students. A professional educator must commit to working hard, be honest, self-confident, trustworthy, and respect others. From the results of the tracer study, the results of questionnaires from respondents related to the characters obtained during undergraduate lectures are shown in figure 5.

FIGURE 5
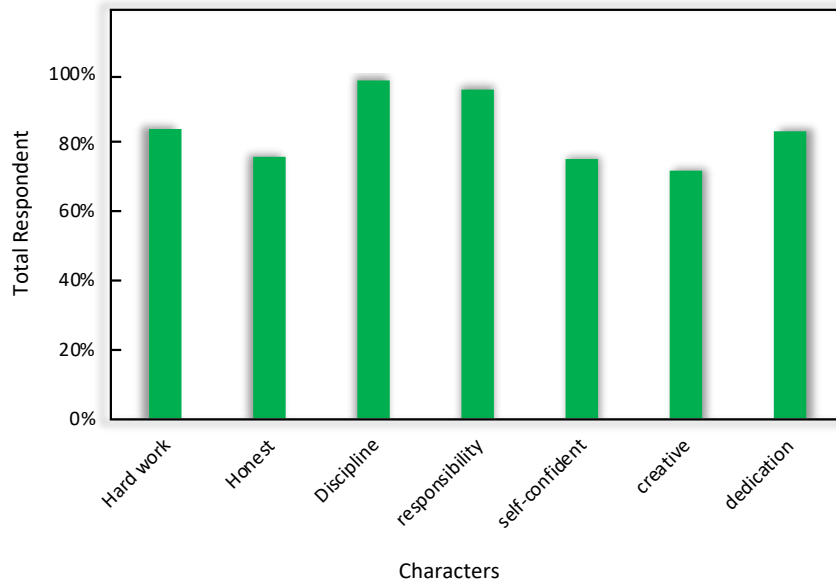**THE CHARACTERS ACQUIRED BY ALUMNI DURING COLLEGE**

Figure 5 shows that most graduates get the characteristics needed as professional educators in the era of society 5.0. It can be seen from the results of the respondents, where more than 70% of respondents get the character of working hard, being honest, having good self-confidence, being trustworthy, respecting others, and being highly dedicated during lectures. The character possessed by alumni is not immediately obtained, but there is character building in the learning process. This phenomenon is similar to the several researchers whereby infiltrating character in the learning process can shape the character of students (Falaq, 2020; Iasha et al., 2020).

Literacy Digital Skills

In society 5.0, a professional educator must have digital literacy skills. Literacy is a person's ability to process and understand information while reading and writing (Frankel et al., 2016; Keefe & Copeland, 2011). In comparison, digital literacy is the knowledge and skills of users in utilizing digital media, such as communication tools, internet networks, and so on (Rachmadtullah et al., 2023; Reddy et al., 2020).

The Universitas Terbuka, one of the campuses in Indonesia that uses a distance lecture system utilizes a digital platform as a learning medium. Platforms developed, such as UT e-learning and UT e-library, which are fully utilized, require students to be proficient in digital technology. These demands resulted in increased literacy skills, according to the results of the interviews.

> *Our lecture process uses UT e-learning, with features for web meetings, uploading assignments, discussing, etc. We must understand technology to attend lectures because everything is technology-based. But it also makes it easier for me where courses are more flexible anywhere and anytime (respondent 5).*

> *Since studying at Universitas Terbuka, I have learned many things about digital technology. All activities and tasks use this technology, such as Microsoft Office, digital-based learning media, digital books, etc. (respondent 11).*

Global Citizenship

    Student participation in scientific forums can increase knowledge and sensitivity to important world issues. On the other hand, this participation can increase the competence of global citizens, which professional educators must have in the era of society 5.0. Global Citizens are citizens who are sensitive to important world issues and willing and able to participate in globalization (Goren & Yemini, 2017; Pashby et al., 2020). Students can prepare to face globalization's positive and negative impacts by participating in scientific forums.

    In this tracer study, one of the topics taken is the participation of alumni during lectures in scientific forums so that they can become a sensitive society that understands world issues. Figure 6 shows the percentage of graduates participating in scientific forum activities.

FIGURE 6
THE PERCENTAGE OF GRADUATES PARTICIPATING IN SCIENTIFIC FORUM ACTIVITIES
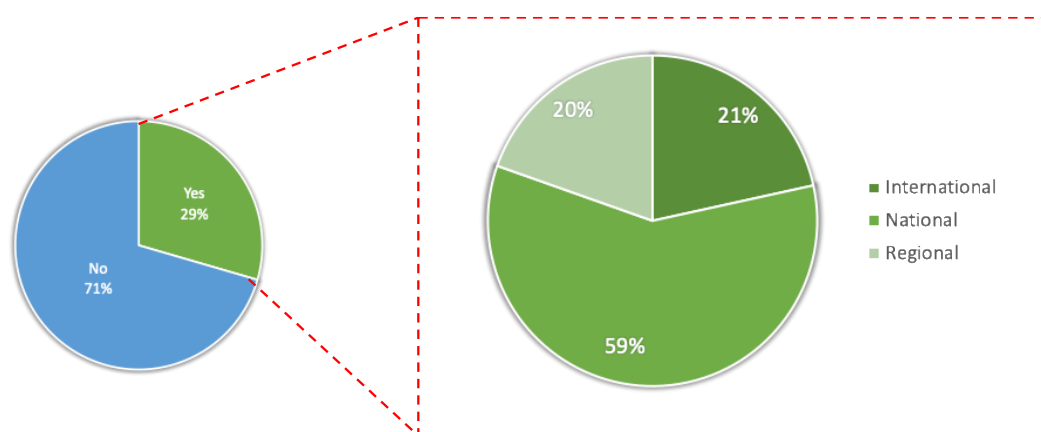
    The tracer study results show a low percentage of students participating in scientific forum activities during lectures. The low participation of the student in the scientific forum could occur because of the limited time of alumni working while studying. In addition, alumni do not dare to participate because they do not have enough knowledge. This reason can be seen from the results of the responses from alumni.

> *I haven't dared to participate in scientific forums because my knowledge and skills have not been maximized (respondent 23).*

> *I don't know much about what is discussed in the forum (respondent 11).*

> *The time is limited, and we have to work, study, and join organizations, so I'm afraid to join the forum. Confused by the topic I convey (respondent 35)*

CONCLUSION

    Tracer study research on the competence of graduates from the Basic Education Service to become professional educators in the era of society 5.0 has been successfully carried out. This study discusses five main topics: organization, mastery of the material, character values, digital literacy skills, and global citizenship. The research results obtained several critical skills for the 21st century: leadership skills, digital literacy, communication, emotional intelligence, pedagogy, teamwork, and problem-solving. However, the involvement of graduates in academic forums during lectures is still low, so understanding of contemporary global challenges is also low, especially in education. On the other hand, From the results of this research,

it is recommended to make curriculum designs and learning models better in distance learning so that all graduates can have competence as professional educators in the era of society 5.0

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