Pedagogy teachers’ competence establishes students’ digital ethics: Case of educational modernization in Indonesia

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Abstract
This research aims to explore the competence of digital pedagogy of teachers towards the establishment of students' digital ethics in the modernization of Indonesian education. This research uses the phenomenological approach to examine the essence of teachers’ digital pedagogy competence. We collected the data using semi-structured interviews with five primary school teachers in Indonesia who have worked for more than three years. We chose the subjects based on their capability in guiding students in their routine. The results showed that the pedagogical teaching competence to establish the students’ digital ethics in education modernization are driven by some factors, namely: (1) the teachers have responsibility at work to self-actualize, (2) the teachers have high confidence to establish digital ethic in education modernization, and (3) the teachers use research and spiritual approaches to change the students’ ethics in education modernization. These three factors ultimately encourage teachers to establish digital ethics in education modernization. Therefore, it is important to establish the policy regarding the pedagogy digital competence. Furthermore, teachers can also take advantage of these findings by maximizing antecedent factors to increase digital pedagogy competence at work.

Keywords: Indonesian educational modernization, students’ digital ethics, teachers’ pedagogical competence


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INTRODUCTION
Indonesia faces many challenges in the implementation of digital learning. It is raised in the national symposium with the theme of learning reflections responding to the Covid-19 pandemic and strategies towards a new habit in June 2021. There are two problems in the implementation of digital learning. First, the competence of teachers related to the utilization of digital platforms in education is still minimal. Second, the condition of parents of students who do not support children in providing learning facilities using digital media. In the scope of the district, internet access for online learning is minimal. Even in some areas, there is almost no internet access.

Digital ethics has been significantly influenced by the pleasure of doing what students want in their daily lives. Preliminary studies have been carried out on the digital ethics of students. Hume makes us comfortable in including humor, recreation, enjoyment, and fun in our definition of happiness. The
pleasure was paramount for Hume, but it is not a selfish or self-indulgent pleasure that he praised. Every act, every virtue was to be judged based on whether it yields pleasure or utility to the self or the community (Hume, 1983). It means that creating a hierarchy of human attributes puts tremendous pressure on people to “measure up” and may, thus, create unhappiness in some who would not otherwise be greatly troubled by their deficiency in a given attribute (Yuh, 2015). There are also ethical problems in elevating rationality/reasoning over all other human characteristics (Noddings, 2003).

Microsoft found the surprise about the digital ethics of Indonesian students. Microsoft released the "Digital Civility Index," which shows the level of civility of internet users or netizens throughout 2020. The results are concerning because it shows that the civility rate of Indonesian netizens is shallow. Based on a survey of 16,000 respondents in 32 countries between April and May 2020, the report showed that Indonesia was ranked 29th. The survey found that 47% of those surveyed had engaged in bullying online, 19% even said they had been targeted by bullying. The groups most exposed to bullying on the internet were generation Z or born between 1997-2010 (47%); millennial or born between 1981-1996 (54%); generation X or born between 1965-1980 (39%); and baby-boomers or born between 1945-1964 (18%). Based on the survey results, Indonesia in 2020 became the country with the least civilized netizens in Southeast Asia (Mazrieva, 2021). In addition, the Indonesian Internet Service Providers association also surveyed internet use. The result showed that the generation carries out the users and perpetrators of bullying on the internet with the highest level of education, only elementary school graduation (Raharjo, 2021). Surveys showed that young people who only graduate from elementary school spend much time on social media far from the scientific culture and get caught up in fringe issues, making it unproductive. Time and energy run out in endless absurd debates.

In the process of Indonesian educational modernization, teacher digital competence has significant challenges. The challenge comes from the internal and external teachers. The internal challenge in educational modernization such as the teacher has a problem with their culture in their own family. Due to Modernization, the children’s ethics broke culture and gave the lousy habit to the family. The situation in the family makes the children express themselves on social media and has an impact on social life.

At present, the challenges faced by teachers are enormous. Teachers face intense competition, resulting in immense pressure for performing well in their teaching and learning, and as out-of-class teaching, they confront a different set of concerns. While they grapple with their problems of growing up—personality competence, pedagogy competence, social competence, and professional competence have been changing. The Teacher finds that often they are left to contend with this state of affairs on their own. To further compound the situation, they have to measure the high expectations (not always realistic) of the students and the peer teachers. All these developments affect the mental, physical and emotional health of the teachers. The personality and social are more accessible to change than pedagogy and professional competence due to various factors and economic reasons.

The teacher is too absorbed in their day-to-day pursuits to give quality instruction to their students and provide appropriate directions. A steady depreciation of teacher bonding is evident. As a result, old teachers could not handle these pressures and stress in many cases. Some may even break down, leading to disastrous consequences in the teaching and learning process.
When they should do teaching and learning instruction, they feel insecure and cannot assure the environment of their educational instructions. Education makes teachers often confront circumstances and situations that they have not fully equipped to cope with digital ethics. As a result, the teachers often find themselves stranded at improving teaching quality, facing up to the harsh and complex realities of life. They have dreams for their career, but they are not sure whether they will realize about changing digital ethics of students.

Based on ethical digital problems in education modernization, we should start improving the existentialism in ethics of action and involvement ethics digital in the teaching and learning process. Teaching and learning processes are related to three education centers, such as formal (school), informal (family), and non-formal (environment). The fast strategy to execution rapidly started with a legal department. Because 96% of students in elementary school more believe their teacher than their parents. Therefore, teacher competence becomes the central issue in establishing student digital ethics. And also, the teacher digital competence based on Indonesian qualification standards becomes a new platform to improve students’ moral education quality.

Thus, this paper will describe the quality of digital pedagogy teacher’s competence establish student digital ethics in Indonesia’s educational modernization.

Literature review

The concept of teacher pedagogy competence is about the ethics of teaching. Pedagogical competence relates to the development era and characteristics of people who are living in that time. This literature review will explain pedagogical competence, students' digital ethics, and educational modernization.

Pedagogy teaching competence related to the students’ digital ethics

Pedagogy is a skill of the teachers in planning, implementing, and evaluating the process and results of students’ learning. Pedagogy competence also supports improving the quality of learning outcomes (OTS0, 2011). The relationship between pedagogy and teaching skills does describe in the following configurations. The learning process is an integral part of the pedagogical competencies that every teacher should have. The management of the learning process is carried out based on research content instead of knowledge content. Teaching skills can teach students effectively, both before entering the classroom, during school, and after class.

The standards for the award of qualified teacher status require, among other things, evidence that trainees 'set a good example to the pupils they teach, through their presentation and their personal and professional conduct'. There are at least two assumptions here, that teaching is in some way a moral vocation (Carr, 2004) and that children’s values will be influenced, consciously or otherwise, by the example set by their teachers in their relationships, attitudes and teaching styles (Halstead & Taylor, 2000).

According to the law of the Republic of Indonesia, number 14 of 2005 concerning teachers and lecturers, competence is a set of knowledge, skills, and behaviors that must be possessed, lived, and mastered by teachers or lecturers in carrying out professional tasks. Coe et al. (2014) reveal at least six components that can make the learning process a very successful strategy. In Coe’s terms, the learning process is called excellent teaching because it produces extraordinary learning outcomes judging by various basic competency measures and indicators. The six components are pedagogical content of

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Pedagogy teachers’ competence establishes students’ digital ethics

Fu & Satrianawati
learning, quality of instruction, classroom climate, classroom management, teacher belief, and professional behaviors (Coe et al., 2014). Teacher digital pedagogical competence in teaching and learning can be broadly defined as the confident, critical, and creative use of ICT to achieve goals related to work, employability, learning, leisure, inclusion, and participation in society. Digital competence is a transversal key competence that enables us to acquire other key competencies (e.g., language, mathematics, learning to learn, cultural awareness). It is related to many of the 21st Century skills which all citizens should acquire to ensure their active participation in society and the economy (Ferrari, 2013).

It focuses on the existing pedagogy of professional teachers who can develop the learning process in line with the demands of the times. Pedagogy of teachers is required to build the digital ethics of students in learning. Based on the regulation of the Minister of Education and Culture Number 22 of 2020 on standards of primary and secondary education process, it is stated that (1) the standard of primary and secondary education process in the future is called the process standard. The process standard is a criterion for implementing learning in elementary education units; and; (2) elementary education units to achieve graduate competence (Kemdikbud, 2020). Therefore, to achieve graduate learning in school must meet the following principles: (1) without being told to find out; (2) teachers are not the only source of learning; (3) from content-based knowledge to content research; (4) from competency-based learning to competency expert-based learning; (5) from general learning to specific; (6) from multi-dimensional learning to centralized learning; (7) from applicative learning to creator learning; (8) improved balance between hard skills and soft skill; (9) learning prioritizes the culture and empowerment of learners to become lifelong learners; (10) learning that applies the values of example (ing ngarsa sung tuladha), learning that builds willpower (ing madya mangun karsa), and creativity (tut wuri handayani); (11) learning that takes place anywhere (Satrianawati & Fu, 2019); (12) learning that applies the principles of anyone is a learner, anyone is a teacher, and anywhere is a class; (13) using information technology for the efficiency and effectiveness of learning; and (14) there are no individual differences and student cultural backgrounds.

Students’ digital ethics
Ethical issues do not only happen in Indonesia. The discussion of ethics has begun since humans interacted with other humans. Several novels have raised ethical issues, including Sartre, who wrote several significant novels, short stories, and plays. The most gripping of his plays, No Exit (1945), features three characters trapped in a “hell” they have created by their efforts to justify the acts of bad faith that have shaped their lives. The main ideas outlined in these most famous of Sartre’s writings has summarized in the lecture entitled “existentialism,” which Sartre presented in Paris in 1945. In the following excerpt, Sartre discusses existentialism as ethics of action and involvement and explores the meaning of existential anguish. While Sartre excluded the question of God’s existence from his speculations, Christian existentialists saw a slight contradiction between the belief in a supreme being and the ethics of human freedom and responsibility. They held that religious philosophy need not concern itself with the proof or disproof of God’s existence; instead, it should focus on the individual’s moral life. Beyond what Kierkegaard had called the “leap of faith” from which all religious belief proceeded, there lay a continuing moral responsibility for one’s own life. According to the philosophers Karl
Jaspers (1883–1969) and Gabriel Marcel (1889–1973), God had challenged human beings to act as free and responsible creatures (Fiero, 2015).

In the autobiographical sketch the ethics of living Jim Crow Wright records with grim frankness the experience of growing up in a racially segregated community in the South America (Riser, 2010). Based on these writings, ethics has become the subject of discussion and debate among philosophies and continues to grow today. Over time, ethics that develop and become a concern today is regarding digital ethics. The problem of digital ethics is closely related to the economic situation that does not only occur in Indonesia, from Estonia and Singapore to India, from Western Europe to America together is looking for solutions in facing the challenges of the digital era. for example, Elder briefly defense of blocking others on social media breaks from an Aristotelian virtue-ethical analysis by appealing to legal rights and obligations and thus does not provide a satisfactory answer to the problem under a virtue-ethical framework by considering the implications more fully for a flourishing civic life (Worden, 2019). Therefore, to remain viable in the new economic situation, the values of traditional culture should be to some extent modernized. However, the current is to address the roots of the spiritual sphere of the Indonesian people to its traditional ethics, philosophical views of Indonesian educators, school of philosophy, and ideas which can objectively and deeply understand the realities of digital ethics in modern life.

In modern life, digital ethics play an essential role in students’ moral cultivation in daily life. It includes education formal, informal, and non-formal. Even the environment in which our life is also very dependent on student behavior. Digital ethics is the ability of individuals to realize, exemplify, adjust, rationalize, consider and develop digital ethics governance (netiquette) in everyday life. It means that using digital media should be directed at an ethical intention, attitude, and behavior for the common good to improve the quality of humanity (Dinansyah, 2021). John Borthwick proposes five things to improve the future of digital: the use of technology platforms, making rules not to believe in digital information for granted, giving people responsibility about the use of technology, familiarizing public spaces with productive activities, and guaranteeing social security systems of internet users (Keen, 2019). Learning from this, Indonesia, as part of world citizenship or the world community, has a responsibility to improve cultured, national, and globalized life. Therefore, digital ethics is concerned with the way everyone who uses digital interacts with others in the digital world.

*Indonesia educational modernization*

Indonesia education system, there were powerful forces that opposed globalization, and rejected the need to join the global educational space. It is due to this “hatred” that the national educational canons, despite the significant influence of new and experimental trends, were followed by educational institutions. The worst situation was in the fanatic religious people in some cities, where the structure and content of education and globalization of educational canons to the detriment of were polished in accordance with the norms of common national values and educational traditions. If the concept of westernization is a “root, original education” for Indonesia, so the globalization is alien phenomena. Globalization is associated with westernization. However, globalization is not identical to westernization (Nurutdinova et al., 2017). Globalization caused unprecedented growth and spread of information and digital technologies, favorable and easy access to knowledge and information for
millions of students (Vasilyeva & Sinagatullin, 2020). Indonesia educational systems have benefited from modern technologies.

Now Indonesia educational modernization necessary to emphasize positive trends about concepts of multicultural and global education. Indonesia educational modernization identic with the modern muslim. Modern muslim adapts to the current conditions by implementing a schooling system that is suitable for formal education (Tolib, 2015). Indonesia educational modern systems also cause negative consequences. An anti-globalist, ethnocentric or vehement patriot can immediately reject this idea arguing that “this monster of integration” or “terrifying creature” will “crush” ethnic, cultural and educational traditions of some communities. This threat exists, and the globalizing vortex “nibbles and sweeps away” national, folk, and classical educational traditions.

However, the idea of Indonesia educational system implies parallel support and development of national educational canons. In fact, all school properly organized education should concentrate on both global (universal) and national values. National educational systems in some cities are lagging or need updating and modernization. To achieve the educational standards of the new millennium, the Indonesian students should require to solve common problems based on mutual understanding and cooperation within ethnic, cultural and religious group because they have something to offer and add to the global educational melting pot.

Research question
How does pedagogy teachers’ competence establish the student’s digital ethics in Indonesia’s educational modernization?

Research objective
This research explores the pedagogy teachers’ competence to establish students’ digital ethics in Indonesia’s educational modernization.

RESEARCH METHOD
This research uses an experiential, phenomenological approach (Denzin & Lincoln, 2005). This approach is suitable because the research engages participants to reflect on the student’s digital ethics based on their natural attitude (Gendlin, 2018). Collecting data by interviewing, observing, and documenting utilization about pedagogy teachers’ competence to establish student digital ethics during modernization in Indonesia educational system. This research is part of a more extensive study that investigates students’ digital ethics in the variables affecting the teacher pedagogy competence in Indonesia during digital learning (Fu & Satrianawati, 2020). The research flow can be seen in Figure 1.

Role of author
This research does carry out by two authors lecturing in different universities. One is as a supervisor, and one is as a doctoral student. Using an inductive attitude determined the research objectivity, which indicated that all authors tried to put aside the perceptions and experiences to remain honest on the participants' experiences in describing the phenomenon (Yin, 2011; Yin, 2016).

Both authors collaborate in research about phenomenology research and practice in research activities. Data collection does carry out after the research team received official approval from the Muhammadiyah Elementary school in Yogyakarta Province, as the agency supervising the participants’ schools is in charge. Furthermore, to ensure the rigor and trustworthiness of the research, a
draft of the manuscript was sent to the participants, and they all agreed with the results.

![Figure 1](image-url) Research procedure.

**Participants**

Researchers selected the participants by directly choosing them based on the following criteria, namely: (1) They are graduated from Universitas Ahmad Dahlan; (2) We believed in their pedagogy competence and they have capacity to explain and giving information about students’ digital ethics during modernization in Indonesia educational system; (3) Five participants have working at school more than three years; (4) Based on curriculum in primary school department in UAD, they had already been two years doing apprenticeship program at school; (5) The study also involves male and female teachers because most of the literature focuses on gender roles (Siwek et al., 2017). Thus, they give accurate and update information appropriate with the aim of this research.

The subjects consist of five teachers from different elementary schools. In terms of gender, there are three females (60%) and two males (40%), while the teacher’s teaching experience was relatively between 3 to 5 years. Conversely, the average teaching experience was four years and four months. In terms of education, all participants reported that they had completed a bachelor’s degree. Based on the range of salaries collected, five people earned below one million rupiahs, eight earned between 1,000,000 to 2,000,000 rupiahs, and two earned above 2,000,000 rupiahs. This information shows that most teachers earned salaries that did not meet the stipulated standard of living.

**Data collection**

The data collection process was carried out by conducting a series of individual interviews. Each teacher participated in different interviews, ranging from one...
to two. The first interview was conducted by sending the guidelines to the participants via e-mail (Rania & Pinna, 2021) with a maximum of two weeks given to provide answers to the questions. All participants returned their answers before the maximum time allotted. Before conducting the second phase of the interviews by telephone, the second authors read the entire 30 pages results to understand the overall data content. Then, the second phase of the interview was carried out by telephone with each session recorded after obtaining permission from the participants. The recordings were transcribed verbatim, with a code used for each participant to maintain anonymity. The interview protocol was guided by nine open questions. Subsequently, the names of the informants were written using initials (P1-P5) to maintain the anonymity of all teachers participating in this study, and as a fulfilment of social research ethics (APA, 2017). The data collected through interviews were guided by eight questions as follows.

1. Do you understand about teacher pedagogy competence?
2. How you implementing teacher pedagogy in digital learning?
3. What the positive experiences have you had while teaching students in digital learning?
4. How about the netiquette of students using digital?
5. What the specific method you emphasize the student to use mobile phone in learning?
6. Do you know about the result of survey digital ethics was doing by Microsoft in 2020?
7. Based on that result, how you implementing teacher pedagogy in digital learning?
8. Indonesia changes the Education system that we called Independent Learning campus Independent (MBKM)?
9. What the specific changing in your pedagogy competence to adapting modernization in educational system?

Data analysis
In natural attitude, the phenomenological analysis does use to understand the phenomenon of finding the student’s digital ethic in the modernization of the education system. The essence of experience in phenomenological research has one or more features in common concerning a particular phenomenon (Leedy & Ormrod, 2003).

The data analysis process does divide into three stages. The transcript was read first in its entirety, repeatedly, to gain an overall understanding of the data contents, highlight the critical responses, and make margin notes. Keywords and phrases represent participants’ answers and potentially support the theme highlighted. In the second stage, performed the coding was openly and sequentially. In the third stage, the codes were broken down and grouped to form themes and subthemes based on participants’ answers (Merriam & Tisdell, 2016). Many codes with similarities were combined to form themes and sub-themes, thereby reducing the number to 49. This process resulted in three themes and 14 sub-themes: the teacher pedagogy competence, students' digital ethics, and Indonesia educational modernization. The results are presented in results and discussion section.

RESULTS AND DISCUSSION
This section presents the research findings by the themes generated in the data analysis process. Themes and sub-themes elaborated along with relevant
quotations from the transcript as supporting evidence. Phenomenological research highlights the general elements of the experiential phenomenon and a lived experience based on their social world (Barrett, 2007; Keen, 1996; Schell et al., 2009).

This study explores how teachers' pedagogy competence establishes students’ digital ethics in Indonesia’s educational modernization. Found that The Teacher Pedagogy competence Indonesia educational modernization establish the good netiquette of student digital ethics. Although the teachers have been supported by department education to do digital learning, they found some attitudes that students adopt from digital in daily attitude. Some students showed the worst reaction when the teacher gave them homework. When the teacher explained the lesson, some students are bullying others, some are inspiring when they see the videos, and some are promoting their talent. Found that the digital ethics of students were quite diverse. The themes developed describe teachers' pedagogy competence have identic of sub-themes each other.

**Theme 1: Teacher pedagogy competence**
The first theme is determining the direction of student digital ethics in educational modernization. The subthemes are presented in Table 1.

<table>
<thead>
<tr>
<th>Subtheme</th>
<th>Theme Building Code</th>
</tr>
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<tbody>
<tr>
<td>1. The teacher does the planning, doing, and evaluating process</td>
<td>• It is preparing a study plan</td>
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<td>and results in students in learning.</td>
<td>• Doing study plan</td>
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<tr>
<td></td>
<td>• Doing evaluation process</td>
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<tr>
<td></td>
<td>• Doing results in student learning</td>
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<tr>
<td>2. The management of the learning process is carried out based on</td>
<td>• update information about new research relevant to the topic Teaching.</td>
</tr>
<tr>
<td>research content instead of knowledge content.</td>
<td>• Using and updating references about new knowledge.</td>
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<td>3. Teaching is in some way a moral vocation in digital learning.</td>
<td>• Teaching skills teach students netiquette effectively before entering the digital</td>
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<td></td>
<td>classroom</td>
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<td></td>
<td>• Teaching skills teach students netiquette effectively during digital class.</td>
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<tr>
<td></td>
<td>• Teaching skills teach students netiquette effectively after digital class.</td>
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<tr>
<td>4. Teaching and learning are broadly defined as the confident, critical,</td>
<td>• Confident in working</td>
</tr>
<tr>
<td>and creative use of ICT to achieve work, employability, knowledge,</td>
<td>• Critical in learning</td>
</tr>
<tr>
<td>leisure, inclusion, and participation in society.</td>
<td>• Creative and employability use of ICT.</td>
</tr>
<tr>
<td></td>
<td>• Giving the problem solving to students if they get trialed in society</td>
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<td></td>
<td>• Taking the opportunity to contribute to the community.</td>
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<tr>
<td>5. The department of education makes a policy to support teacher digital</td>
<td>• Available networking to support teaching in digital learning.</td>
</tr>
<tr>
<td>competence.</td>
<td>• Enjoying facilitate infrastructure and technology.</td>
</tr>
<tr>
<td></td>
<td>• Granting more autonomy for academic units.</td>
</tr>
<tr>
<td></td>
<td>• Transformation in leadership, society, and culture.</td>
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<tr>
<td></td>
<td>• Improvement of the curriculum, pedagogy, and assessment.</td>
</tr>
<tr>
<td>6. The existing pedagogy of professional teachers can develop the</td>
<td>• Professionalism followed by teacher prosperity.</td>
</tr>
<tr>
<td>learning process in line with the “demands” of the times.</td>
<td>• Involved in research</td>
</tr>
<tr>
<td></td>
<td>• From knowledge to research;</td>
</tr>
<tr>
<td></td>
<td>• From based to expert learning;</td>
</tr>
<tr>
<td></td>
<td>• From general to special</td>
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</tbody>
</table>
This theme was supported by all participants (n=5). The participants stated that the teacher pedagogy competence is noble to education sustainability. To become a teacher is a desire of the soul and a torch for the community (Suyatno et al., 2021).

The first subthemes are coherent with the step of class action research. The five subthemes the other component of pedagogy competence, such as management, experiences in establishing digital ethics at educational modernization, a moral vocation (feeling), the personality of teacher in pedagogy competence (confident, critical, and creative use of ICT), including the supporting from the education department to strengthen pedagogy competence in line with the “demands” of the times.

**Subtheme 1.1 Planning, doing, and evaluating learning process and results**
At Theme 1, teacher pedagogy competence is about the teacher preparing teaching and learning in their class, both online and offline. The teacher makes a study plan, doing what they planned, evaluating what they did. It is like class action research (P1, P2, P3, P4, P5). P1-P5 reported that they have experience doing class action research when they are in college. The difference between them is the number of cycles. P1, P3, P4, P5 used two cycles, and P2 used three cycles.

**Subtheme 1.2 Research-based content learning management**
Teaching and learning processes are related to the student's management in class. It is carried out based on research content instead of knowledge content. (P2, P3, P5) reported they teach the students and give information about new knowledge and new research about the topic. They learn a new method to solve some problems relevant to the topic. It made them more creative in learning. But some students don't understand, and they ask for help from their parents to solve the problem. We also continue to give them time in peer teaching so they will discuss the situation. There is something unique also. One time they did observe, and P1 & P4 said if they have new information, sometimes they forget it to tell the students. And continuing information in the What's app group.

**Subtheme 1.3 Teaching is in some way a moral vocation in digital learning**
Teaching is in some way a moral vocation in digital learning (Sub Theme 1.3). It is doing in process teaching and learning. The teacher control class, look attention to student netiquette that showed in their online course. The teacher also reprimands the students if they disturb the other or create uncomfortable moments during the class. In digital learning, the teacher provisions students’ netiquette effectively before entering, during, and after digital class(P1-P5).

**Subtheme 1.4 The use of ICT in teaching and learning**
Teaching and learning can be broadly defined as the confident, critical, and creative use of ICT to achieve goals related to work, employability, learning, leisure, inclusion, and participation in society (Sub theme 1.4). The teacher establishes students’ digital ethics in good performance. To adapt changing education in modernization the teacher also creative use of Information and Communication Technologies (ICT) in both in their class and in their society. P1, P2, P3, P4 reported that they use their own money and doing teaching not only from their home but also from their school. P5 reported their school give facilitate to doing teaching in digital learning.
Subtheme 1.5 The department policy to support teacher digital competence
Subtheme 1.5 is related to 1.4 as they complement each other. This subtheme consists of available networking to support teaching in digital learning, enjoying facilitating infrastructure and technology, granting more autonomy for academic units, transformation in leadership, society, and culture, Improvement of the curriculum, pedagogy, and assessment. P5 reported that their school also facilitated computers in their school. She also enjoys promoting infrastructure and technology because the headmaster in the school is granting more autonomy for academic units. In education modernization, teachers transform leadership, society, and culture and improve the curriculum, pedagogy, and assessment (P1-P5).

Subtheme 1.6 The existing pedagogy of teachers meets environment demand
This subtheme consists of professionalism followed by teacher prosperity, involved in research, from knowledge to research, from based to expert learning, and from general to specific. This subtheme has two meanings. This theme tries the teacher’s ability to understand and comment on what they did in their school. The first is about financial "rights or demands," and the second is about "obligation or demand" to become professional in their work. P1-P5 reported that they are doing and involved in research. However, they do it only once until two times every year. They understand that they should become experts in learning. It means based on content knowledge to content research, essential to expert learning, and general to particular.

Theme 2: The students’ digital ethics
The second theme is developed in five subthemes as presented in Table 2. In data analysis, it related to teaching pedagogy, digital competence, and educational modernization. Subtheme 2 became the main focus from subtheme 1 and 3. All participants (n=5) unanimously reported that they have experienced positive and negatives in educational modernization.

Table 2. Results of data coding for theme 2

<table>
<thead>
<tr>
<th>Subtheme</th>
<th>Theme Building Code</th>
</tr>
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<tbody>
<tr>
<td>1. Existentialism in ethics of action within online communication</td>
<td>The proof or disproof of God’s existence.</td>
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<tr>
<td></td>
<td>Telling their self in social media.</td>
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<td></td>
<td>Identitc with update status in their opinion, feeling, and doing.</td>
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<tr>
<td></td>
<td>Interacts with others in the digital world.</td>
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<tr>
<td></td>
<td>It improves cultured, national, and globalized life.</td>
</tr>
<tr>
<td>2. The morality belief in digital ethics</td>
<td>Being and the ethics of human freedom and responsibility.</td>
</tr>
<tr>
<td></td>
<td>The proof or disproof of God’s existence.</td>
</tr>
<tr>
<td></td>
<td>Focus on the individual’s moral life.</td>
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<tr>
<td></td>
<td>Lay continuing moral blame.</td>
</tr>
<tr>
<td></td>
<td>Challenged human beings to act as free and responsible creatures</td>
</tr>
<tr>
<td>3. Growing up in a racially segregated community</td>
<td>Supporting</td>
</tr>
<tr>
<td></td>
<td>Bullying</td>
</tr>
<tr>
<td></td>
<td>Inspiring</td>
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<tr>
<td></td>
<td>Promoting</td>
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<tr>
<td>4. Autonomy and dignity of digital students.</td>
<td>Personal digital ethics</td>
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<tr>
<td></td>
<td>Corporate digital ethics</td>
</tr>
<tr>
<td></td>
<td>Digital ethics in modern life.</td>
</tr>
<tr>
<td>5. Play an essential role in students’ moral cultivation in daily life</td>
<td>Digital ethics of formal education.</td>
</tr>
<tr>
<td></td>
<td>Digital ethics in informal education</td>
</tr>
<tr>
<td></td>
<td>Digital ethics in non-formal education</td>
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</tbody>
</table>

Pedagogy teachers’ competence establishes students’ digital ethics
Fu & Satrianawati
**Subtheme 2.1 Existentialism in ethics of action within online communication**

The teachers stated that the positive and negative experiences in the natural attitude of the student during digital learning. In sub-theme 2.1, the students showed their existentialism in ethics of action within online communication in class. Before digital online, the people who have to believe reported that they have religion or trust. Existentialism means about the proof or disproof of God’s existence. They are doing activities in daily life followed by God’s Instruction. For example, Muslims follow Al-Quran and As-Sunnah. It is also to the non-Muslims what they believe. P1-P5 reported existentialism in our country. The trust looks easy because we live in the Muslim society, and the habit also builds from each family in their own home, starting before their child was born.

In different conditions, existentialism in our society means they are exposing themself in social media. P2 reported that our school is a Muslim school. We decide everything based on Muslim guidance. According to Islam, we do not allow our students to expose themselves without reason. We asked them to express who inspires or motivates others. So, we make a group and involve all students to do something great and share it on social media.

On the other hand, P1-P5 reported almost all students telling their parents that they feel bored in the online class. Some parents reported the condition of their children to the teacher. They write in messages on WhatsApp and some in talking by phone. The teacher understands what their parents said because some students focus less during an online class. Therefore, the teacher asks their parents to control their child for completing the homework. This existentialism is also followed by updating their opinion, feeling, and doing (Sub Theme 2.3). P1, P3, P4, P5 reported that some students have constantly been exposed to what they do on social media. They are exposed both in good and in bad condition. When I asked them, they said they were happy to share their need even in bad situations. They said they felt lighter after sharing the problem.

Existentialism is also correlated to interacting with others in the digital world. Living in an era of digital technology is growing at explosive rates. Billion people do exist on social media. Interaction in person-to-person, person-to-many, and many-to-person messages, both traditional SMS texting and messaging apps, radically changed how global citizens interact. An essential revelation for anyone to think that all this digital technology is good for our relationships.

Doing communication technologies make us go away. It improves cultured, national, and globalized life. P1-P5 reported almost all the students watched the video on social media. Some of them follow their lifestyle how they are wearing their clothes. P2 said I have a student who was idolizing artists who have talent and education. She showed a positive effect because my student has inspired by that artist. She was doing the complex study, caring about what we learned. She was studying either in class or after class. Because she wants to like her idol, it means every human being is Idolizing something—both living and non-living things. Because of our desire, we change our culture. Slowly, we lost our culture. In our country, every person who is becoming famous a lot of people asks their nationalism. We can’t disown that we are in the modernization era. We become global citizens and adopt a global culture in our daily activities. When our grandmother and grandfather see our attitude, they feel weird with this generation. But they can’t do anything. They were only watching.
Subtheme 2.2 The morality belief in digital ethics
This sub theme is sensitive. Students’ digital ethics in education modernization in Indonesia always connect what they have to and must not do. According to Indonesian law number 20 of 2003 Article 3, the purpose of national education is to develop the ability and form the character and civilization of a dignified nation to educate the life of the country, aiming to create the potential of learners to become human beings who believe and follow God Almighty, be noble, healthy, knowledgeable, capable, creative, independent, and become democratic and responsible citizens (Kemdiknas, 2003). Before focusing on other goals of education, we should concern about the first point. It determines that before achieving the following purposes, the first should fulfill adequately.

P5 reported that the phase of thinking students in elementary school is operational concrete. Giving them an explanation about the first goals is easy because they get it from their parents and have learned it in kindergarten. The society also supports, and based on the goals of Indonesia education, the teacher and the parents should teach and give role models to the child in the right way. In God’s way. Indeed, according to government regulation, morality is developed in their belief. All humankind should be aware of digital ethics. This sub-theme has some codes, such as being and the ethics of human freedom and responsibility. The proof or disproof of God’s existence focus on the individual’s moral life lay a continuing moral responsibility and challenge human beings to act as free and responsible creatures.

It is related to being and the ethics of human freedom and responsibility. In this sub-theme, All the participants (n=5) mentioned codes strongly connected to the theme of teacher pedagogy competence. Because in teaching, the teacher teaches about the value of being a better person in real life. They explain about using our freedom in a good way and taking responsibility for what we do. In daily life, ethics is moral. At the same time, Ethics and morals are different. It is Identical but not the same. Morals are a concept, but ethics is action to do the right things. Teachers teach how to live and solve the problem. Whereas ethics are actions according to what moral education explained in. the moral concepts we use in shaping what we take to be a good society are linked to the many different ways of life that people rationally choose (Carr, 2003).

It implemented netiquette by the students in social media. The person realized the other of humankind in around. P1-P5 reported that we should take care of our freedom. We should be responsible for what we do. As Muslims, we believe that we will ask everything in the hereafter. We will take responsibility. Joanna Russ, famous with How to Suppress Woman’s Writing, says without models, it’s hard to work; without a context, difficult to evaluate; without peers, nearly impossible to speak (Gabriella, 2013). Thus, the teacher in the school gives a role model to the child to understand freedom and responsibility.

Subtheme 2.3 Growing up in a racially segregated community
The sub-theme of Growing up in a racially segregated community is also supported by all participants in this research (n=5). It stated that the digital students growing in a racially segregated society showed different character and passion. They are sure, growing up in a racially segregated community gives more color in student digital ethics. P1-P5 reported the digital students supporting each other. P2 said by the teacher instruction all students involving themselves in activities. It is to inspire others to do good in daily life. P1-P5 also reported they have ever met some students bullying one student because their group didn’t participate in activities.
A student does not know about the lesson, and sometimes after bullying, they don't want to talk to others. Those usually happen in student relations. P3 reported I have a student growing up poor in a racially segregated community in Yogyakarta. A student is a little quiet when their friend is doing the bullying. Otherwise, the student growing up in a wealthy family feels he has authority over his friend. It becomes one element of social structure. It means there are social differences or classifications of community members in a multilevel manner. In general, by sociologists, the difference is divided into two broad groups, namely social differentiation and social stratification (Kuijt, 2002; Warde & Martens, 2003).

Subtheme 2.4 Autonomy and dignity of student digital
The sub-theme autonomy and dignity of digital students do also mentioned by all participants (n=5). This subtheme has categories in personal digital ethics, corporate between students in digital ethics, and digital ethics in modern life. This theme is related to sub-theme 2.3 that explains being and the ethics of human freedom and responsibility. In a nutshell, autonomy and dignity in an online class are respected relationships between person to person, person to many, and many to person.

P4 reported when she gives homework to the students, she gives obligations to them, but it does not provide a satisfactory answer in the online class. Different from P1, P1 said that I have told them although all of you have freedom from external control and independence, you should have the ability to control, speak and act on the internet.

P2 reported in the physical world, and our location has little impact on how we should treat other people — whether the students on public or private property, the expectations of courtesy are essentially the same. By contrast, teaching and learning online on Google classroom or zoom considerably changes the obligations we have, such as how we complete our tasks and duties. In this way, digital ethics prescribe how the students communicating online should behave, how they should responsibly conduct internet commerce, and how they should treat their other friends on the internet (P1-P5). Thus, autonomy and dignity in modern life include respecting each other’s right to determine good attitudes in the digital world. Because to maintain independence and dignity properly, mediation is needed, both individually and by third parties.

Subtheme 2.5 Play an essential role in students' moral cultivation in daily life
All participants have also mentioned the sub-theme of Playing an essential role in students' moral cultivation in daily life (n=5). They stated their experience as teachers they cannot do by themselves. They need cooperation between all teachers in the school. They played an essential role in students' moral cultivation in daily life, such as how digital ethics of students in formal education, informal education, and non-formal education. Morals and ethics need to build together.

Parents, teachers, and society should cooperate to establish children’s ethics. Thus, the educational environment is not only in school but everything around humans. Whether in the form of inanimate objects, living things, or events that occur, including the condition of society, especially those that can strongly influence individuals, such as the environment in which education takes place and the environment where children get along. This environment indirectly becomes part of the student's character formation (P1-P5).
Theme 3: Indonesia educational modernization
The third theme focuses on students' digital ethics and teacher competence pedagogy. The subtheme consists of powerful forces that opposed and rejected educational modernization, supported and implemented Indonesian educational modernization, and the changing shape of the educational modernization process. All of participants (n=5) unanimously reported experiencing positive and negative emotions at digital ethics of students in online learning. The subthemes are presented in Table 3.

Table 3. Results of data coding for theme 3

<table>
<thead>
<tr>
<th>Subtheme</th>
<th>Theme Building Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. It has powerful forces that opposed and rejected educational modernization.</td>
<td>• This “hatred” the national educational canons.</td>
</tr>
<tr>
<td></td>
<td>• The fanatic religious people reject it.</td>
</tr>
<tr>
<td></td>
<td>• The detriment norms educational traditions.</td>
</tr>
<tr>
<td></td>
<td>• Modernization is globalization, and it is associated with westernization.</td>
</tr>
<tr>
<td></td>
<td>• Indonesia has its own culture.</td>
</tr>
<tr>
<td></td>
<td>• This monster of integration” or “terrifying creature” will “crush” ethnic, cultural, and educational traditions.</td>
</tr>
<tr>
<td></td>
<td>• This threat exists, and the globalizing vortex “nibbles and sweeps away” national, folk, and classical educational traditions.</td>
</tr>
<tr>
<td>2. Support and implement Indonesia’s educational modernization.</td>
<td>• Indonesia’s educational system implies parallel support and development of national academic canons.</td>
</tr>
<tr>
<td></td>
<td>• The significant influence of new and experimental trends.</td>
</tr>
<tr>
<td></td>
<td>• It is the growth and spread of information and digital technologies.</td>
</tr>
<tr>
<td></td>
<td>• It is favorable and easy access to knowledge and information for millions of students.</td>
</tr>
<tr>
<td></td>
<td>• It has positive trends about concepts of multicultural and global education.</td>
</tr>
<tr>
<td></td>
<td>• Some schools are lagging, and they need updating and modernization.</td>
</tr>
<tr>
<td>3. The changing direction of the educational modernization process</td>
<td>• Traditional Muslims become Muslim modern.</td>
</tr>
<tr>
<td></td>
<td>• Modern Moslem adapts to the current conditions.</td>
</tr>
<tr>
<td></td>
<td>• Implementing a schooling system is suitable for formal education.</td>
</tr>
<tr>
<td></td>
<td>• Some school properly organized education concentrates on both global (universal) and national values.</td>
</tr>
<tr>
<td></td>
<td>• The Indonesian students require to solve common problems based on mutual understanding and cooperation within an ethnic, cultural, and religious group.</td>
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</tbody>
</table>

Subtheme 3.1 Forces that opposed and rejected educational modernization
This subtheme explains that there are powerful forces that opposed and rejected educational modernization. P2 reported we accept and adapt, which is appropriate for our future. For example, curriculum in our school now has to take the English language in our learning.

P3 reported their culture and how they treat others is impolite. Thus, we refused modernization, but we could not do anything because we were following the government. The government is explaining how modernization will accept and how to control the students. It is because of this “hatred” of the national educational canons. It did by the fanatic religious people. They reject it, and they think it is detrimental to the norms of academic traditions. Indonesia is not Westernization and Easternization. Indonesia has its own culture.
Educational modernization in Indonesia becomes a monster of integration” or “terrifying creature” that will “crush” ethnic, cultural, and educational traditions. We become globalized, but slowly it will nibble and sweeps away our national, folk, and classical educational traditions (P1-P3).

Subtheme 3.2 Support on implementing Indonesia educational modernization
The participants stated that the positive experiences shaped the support and implementation of Indonesia's educational modernization. P4 reported Indonesian educational system implies parallel consent and development of national academic canons. We have a new era, and we should have experimented with recent trends because it is the growth and spread of information and digital technologies to develop our society. In addition, it is excellent and easy access to knowledge and information for millions of students. We also understand multiculturalism from other countries. It also allows us to compare our education globally. P5 reported our school is lagging, and we need updates to become modern.

Subtheme 3.3 The changing direction of the educational modernization process
This sub-theme is about the changing direction of the educational modernization process. It does support by all participants (n=5) in this research. All of them stated that being positive and negative. P1-P3 said they refuse modernization, but they force to accept it because it is appropriate for the modern era.

Indeed, P4 reported Indonesia’s educational system should follow the trend of the time. We could be stagnant. We should consider dynamic. And make our education better than before. P5 reported our school had become a modern Muslim school. Following what the best for us in the current conditions. The school should implement a schooling system in formal education. Because our society already gets it. Therefore, we keep in contact and control our students related to our school’s vision and mission. We do cooperate with other schools abroad. We introduce our ethnic, cultural, and unity diversity of Indonesia.

Discussion
This research is doing depth exploration about how teachers establish student digital ethics in education modernization. Teacher pedagogy gives more contribution to establishing students' digital ethics. Five participants are telling their experience in teaching and learning while collecting data. Based on the result, the teacher should update their capability following the current situation. Teacher pedagogy competence establishes student digital ethics in education modernization driven by the responsibility in work to self-actualize. By the sub-theme, the teacher in his class can do class action research. The teacher plans, does, and evaluates the process and result in students learning. When the condition forces the teacher to learn online, the teacher must upgrade and practice to teach the students. At that point, teachers need to actualize that they can improve education sustainability during modernization.

The teacher pedagogy competence becomes a part of science in positive subjective experience. Teachers’ personal experience in teaching supposedly will be a reason to the teacher to prevent pathologies in teaching and learning. When the situation is changing, the teacher should improve the quality of education because changing happens. After all, without improving the quality of the teacher, life is barren and meaningless. Whereas the ethics of students develop in a negative and positive aspect. Therefore, the exclusive focus on pathology that has dominated so much of student digital ethics results in a model of the
human being lacking the positive features that make life non-worth living (Seligman & Csikszentmihaly, 2000). Thus, the teacher needs creativity to establish student digital ethics (See Figure 2).

![Figure 2](Image)

**Figure 2.** Preventing pathologies in teaching and learning

Facing educational modernization is not a historical choice. It influences the teacher’s life, especially from economic and political leadership. It causes teachers to do another job out of teaching. Their time continues to increase material wealth, ignoring students’ digital ethics and improving their ability.

The effort curative of situation the education department makes a policy to strengthen the quality of the teacher. The education department has been developing four actions to support teacher digital competence—the first is repairing infrastructure and technology. Second is the improvement of policies, procedures, and funding and granting more autonomy for academic units. Thirdly doing transformation to improve leadership, society, and culture. While the fourth, make improvements to the curriculum, pedagogy, and assessment (Karmila, 2021).

The teacher has a responsibility to develop their competence. They also should be aware of intercultural, socio-cultural, and cross-cultural reflections. It means they need to awareness in acquisitive understanding (Nurutdinova et al., 2017). Aware that the situation has changed rapidly and they should improve their capability in pedagogy digital competence. Pedagogy digital competence is a transversal key competence that enables us to acquire other vital competencies (e.g., language, mathematics, learning to learn, cultural awareness). It is related to many of the 21st Century skills that all citizens should acquire to ensure their active participation in society and the economy (Ferrari, 2013).

On the other hand, the teacher also has support from the local content curriculum. It means that Indonesian education considers the Indonesian government’s highly decentralized nature—education policy regarding curricular content and the roles and responsibilities assigned to educators. The policy encouraged teachers to experiment with innovative pedagogies designed to revitalize instruction (Harding, 2017). Currently, teacher pedagogy
competence has become digital competence because of teaching and learning online. It is also supported to make fast education modernization in Indonesia.

The teacher guides the digital ethics of students in high confidence. The Indonesian society could not separate from religion because to advising Indonesian people should use a religious approach. As the character of people in Indonesia, believe in God ways. So, during modernization in Indonesia, some teachers’ seniors could not adapt to technology, but they kept in contact with students by visiting home to home. The teacher motivates and encourages students to open their minds with a religious approach (Maddux & Lopez, 2015). Finally, keeping contact in teaching and learning has a substantial impact on students’ digital ethics. The point is that each area has a different teaching process (See Figure 3).

**Figure 3.** The teaching process in three different areas in Indonesia

**CONCLUSION**

Educational sustainability in education modernization obligates all teachers to work hard to follow their competence in teaching. Teacher pedagogy competence expands in pedagogy digital. The competence of online instruction needs effort from the teacher itself. To establish Digital Ethics for Students in The Modernization of Indonesian Education, the teacher should improve their ability in pedagogy digital competence. They are making a religious approach. Teachers also should take responsibility and work to self-actualize themselves based on their knowledge. The teacher needs more confidence to establish digital ethics in education modernization, and digital ethics and education modernization have a substantial impact on religious attitudes. Thus, the importance of the pedagogy digital competence policy to develop the digital ethics of students in education modernization using research and spiritual approach.

**Final consideration**

We are aware that our study has shortcomings as limitations indeed. The study was conducted in a particular school in Indonesia based on some personal-lived experiences and previous studies. Then, it should be noted that the sample used is representative of teachers in Indonesia only. Therefore, caution should be taken when generalizing these results to South-East Asia countries; Nevertheless, despite the sample size limitation and research setting, the results
are meaningful in practice as they provide some evidence for students’ development during digital teaching. Worthy also mentions that these findings are more generic as teacher pedagogy digital competence doesn’t have maximal support in government.

ACKNOWLEDGEMENT
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REFERENCES


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