



European Journal of Educational Research

Volume 13, Issue 1, 89 - 102.

ISSN: 2165-8714

<http://www.eu-jer.com/>

Students' Perspectives on Civic Education through Digital Citizenship in The Virtual Era

Muhammad Japar* 
Universitas Negeri Jakarta,
INDONESIA

Asep Rudi Casmana 
Universitas Negeri Jakarta,
INDONESIA

**Mohammad Mona
Adha** 
Universitas Lampung,
INDONESIA

Dini Nur Fadhillah 
Universitas Binawan,
INDONESIA

Received: October 23, 2022 • Revised: February 1, 2023 • Accepted: July 5, 2023

Abstract: This study aimed to determine Indonesian students' perspectives on digital citizenship skills. Digital literacy is one of the most important needs in the community and the school environment. As educational institutions, universities are expected to integrate and develop an IT-based learning environment to help students develop digital skills. This study used social media and knowledge of rights and responsibilities in cyberspace to examine university students' digital-based skills. A descriptive method with a qualitative approach was also used to describe the perspectives of students about their rights and responsibilities. Participants included 12 students from state universities in Jakarta and Lampung. Data was collected through interviews and 90-minute focus group discussions (FGD). The results showed that the top three considerations that emphasized ethics in cyberspace were maintaining privacy, not spreading fake news, and respecting the Internet community. In this context, individuals must uphold their rights and responsibilities in the virtual world, and university students are expected to apply digital ethics appropriately.

Keywords: *Citizens skills, digital ethics, digital literacy, rights and responsibility, university students.*

To cite this article: Japar, M., Casmana, A. R., Adha, M. M., & Fadhillah, D. N. (2024). Students' perspectives on civic education through digital citizenship in the virtual era. *European Journal of Educational Research*, 13(1), 89-102. <https://doi.org/10.12973/eu-jer.13.1.89>

Introduction

Digital citizenship is expected to be integrated into college teaching materials to increase students' awareness as citizens (Häkli et al., 2020). This awareness is due to its multidimensionality regarding knowledge, attitudes, and behaviors. According to Kolomitz and Cabellon (2016), digital citizenship focuses on protecting and healthy use of online technology. They recommended enhancing the younger generation's skills through digital education materials. Healthy use of digital technologies also helps minimize discriminatory acts via social media. For example, discrimination against black people in the United States is increasingly practiced through social media (Miller et al., 2021). Although cyberspace offers freedom of communication and expression, the unwise use of media platforms is still responsible for several online cases of abuse. This abuse has reportedly led to the spread of violent messages, comments, and hate speech. In this case, people are not free from intolerance and discrimination in the digital world (Castaño-Pulgarín et al., 2021).

Irresponsible social media users are responsible for easily underestimating people based on race, ethnicity, and religion, which leads to intolerance. According to Chaudhry and Gruzd (2020), 51,991 comments on Facebook emphasized race or ethnicity, indicating that 64% of these posts highlighted racism. In addition, social media spread hate speech due to racial discrimination against Asian Americans (Pan et al., 2021). In line with this finding, Martin et al. (2019) stated that the younger generation needs digital civic education to exhibit appropriate and responsible online behavior.

Pahlavi (2017) also noted that university civic education strengthened the characters of different nations. This result proved that the university was suitable for integrating digital citizenship into students to give them an awareness of using online technology. In addition, digital citizenship is expected to minimize discrimination and intolerance, which are sources of division through the unwise use of social media. In this context, students must recognize and understand the digital citizenship that develops public inclusion through social media (Irawan & Firdaus, 2021). According to Khaerun Rijal (2021), these media platforms provide education and an understanding of diversity differences to maintain tolerance. Adha and Yanzi (2013) also presented a learning model that enables diversity by developing multicultural

* **Corresponding author:**

Muhammad Japar, Universitas Negeri Jakarta, Indonesia. ✉ mjapar@unj.ac.id



academic performance. Therefore, digital citizenship is expected to be substantially integrated into the learning materials for university civic education courses.

According to Damanhuri and Juwandi (2020), Learning Management System education improves the understanding of academic materials and content. This finding suggests that the system helps to improve digital citizenship in students' online literacy. In this context, it was particularly important for higher education students to build and use virtual identities (Goodman et al., 2018; Salajan, 2019; Sparks et al., 2016). The importance of enhancing students' digital citizenship has also been integrated by online literacy and course design through online literacy and nationality so that education can play an active global role (Gazi, 2016). In addition, the internalization of digital literacy and citizenship emphasizes the readiness to adapt to the global society. Digital citizenship emphasizes respectful and tolerant behavior toward others as citizens' involvement (Jones & Mitchell, 2016; Martin et al., 2019).

Several previous studies have also stated that some of the problems encountered in the era of digital citizenship are students' lack of online skills proficiency and insufficient understanding of virtual citizens' rights (Ahlquist, 2016; Casmana et al., 2023). In this context, digital literacy includes students' ability to use various online applications and ethical principles when implementing them in cyberspace, and some of the problems involve hate speech in comments (Oyedemi, 2014). In addition, hate speech is a negative comment often seen as denunciation or insult in a posting. Various public figures often do this online, especially on Instagram or Facebook. Poor understanding of digital skills among students also leads to poor comments being made on multiple people's posts, which can lead to unrest and emotions on social media (Buchholz et al., 2020; Guitert et al., 2021). In this case, teaching must solve the problem immediately. The second digital literacy problem concerns the spread of hoaxes or fake news, often done by multiple individuals, including students. Most learners often spread fake news without determining its truthfulness and checking with other sources, leading to harmful online situations (Datta, 2018; Prasetyo et al., 2021). The present study must investigate the two digital literacy issues based on these descriptions.

The second experimental problem emphasizes digital rights and responsibilities, requiring students to understand their rights and responsibilities when using cyberspace. Since these requirements are often personal, students must learn and understand them. To some previous reports, many people did not understand their rights and responsibilities, leading to a social media uproar (Lidén, 2016 & Wen & Shinas, 2021).

From these descriptions, it appears that citizenship is important in making students digital citizens in the advanced technology and information age. This finding is consistent with previous studies in which digital citizenship was essential for the younger generation (Jones & Mitchell, 2016; Martin et al., 2019). In this case, digital citizenship can be integrated through civic education. However, previous research has not shown a link between civic education and digital citizenship in the virtual age (Lidén, 2016; Martin et al., 2019). Therefore, this study aims to develop a digital citizenship-based model of civic education to strengthen multicultural education. There are several advantages to conducting this study. First, this study shows how students understand the importance of online skills, such as digital ethics, and how similar the world is in reality and online. It also shows students' attitudes toward news dissemination. The mentioned skills are useful for other readers and teachers who teach students online. In addition, since rights and responsibilities are considered important, this study provides information on these issues. Thus, this study would benefit students and teachers in teaching digital citizenship. According to Prasetyo et al. (2021), there are several problems of digital citizenship related to the nature of the community reportedly observed in the implementation of digital activities, such as insufficient understanding of digital skills and lack of knowledge about the rights and responsibilities of online citizens. This study implements a blended learning model with six aspects of digital citizenship to strengthen multicultural education. In addition, it also considers the development of Blaj-Ward and Winter's (2019) proposal that students need a consistent understanding of personal, academic, and professional digital spaces. This proposal emphasized the perspectives of Pancasila and Civic Education students in understanding digital literacy, with subsequent analysis of cyberspace ethics and online citizens' rights and responsibilities.

Study Questions

Based on the problems mentioned above, especially those related to students' digital literacy and their rights and responsibilities, the following study questions are posed:

- 1) What are the digital ethics of students using social media in cyberspace to understand online citizenship skills?
- 2) How do students understand the rights of digital citizens?

Literature Review

The Concept of Digital Citizenship Skills

Digital citizenship is interpreted differently depending on the point of view. However, digital citizenship generally implies the norms or rules corresponding to standards and responsible behavior in Internet use (Buchholz et al., 2020; Reynolds et al., 2022). In this study, the mode of citizenship is conceptually used when citizens actively use the Internet for their daily activities. From this description, it is clear that everyone needs specific skills related to Internet use that correspond

to qualifications and various factors of digital technology. Children and adults frequently use the Internet in cyberspace through a computer, cell phone, or other information technology devices (Sumadi & Casmana, 2020). This result shows that people in the digital world have different backgrounds and characteristics (Blumberg et al., 2019; Madon & Schoemaker, 2021; Sparks et al., 2016). According to various previous reports, the different backgrounds and characteristics often led to disruptive problems, suggesting the need for ethics or rules for Internet use. This condition led to the development of ethics or rules in cyberspace (Ahlquist, 2017; Peterson & Bentley, 2017). Therefore, this study uses the term digital ethics and divides it into the categories of maintaining personal and individual privacy, not spreading fake news and the rights and responsibilities of the virtual community.

Privacy is the most important element in the digital world because personal data such as date of birth, biological mother's name, identity card, and cell phone number are in the foreground. These data are often lost if carelessly handled and misused, suggesting that education is needed to maintain privacy and confidentiality (Bartlett et al., 2018; Stover et al., 2016; Wang, 2021). This factor is accompanied by the non-distribution of fake news, which is especially necessary when implementing digital ethics. Since fake news contains invalid information and negatively affects the community, its non-proliferation should be implemented appropriately. The third factor emphasizes knowledge of all rights and responsibilities to improve mutual respect (Lidén, 2016; McNaughton et al., 2022; Torres, 2015). The nine main aspects of digital citizenship skills include access, commerce, communication, literacy, ethics, law, rights and responsibilities, health, and safety. For this analysis, only digital ethics, rights, and responsibilities were adopted and implemented from this context.

Digital Ethics Concept

Digital ethics is the personal ability to realize, set an example, adapt, rationalize, consider, and develop online governance daily. It is used to perform activities or behaviors, indicating that the daily implementation of the Internet is an event in the digital world (Jesson et al., 2015; O'Connor et al., 2020; Weinberg & Flinders, 2018). Moreover, digital media should apply good ethics and focus on positive elements to achieve a common good. Conflicts based on religious, cultural, ethnic, racial, and skin color differences must also be avoided when implementing good ethics. These ethics are important when understanding many people's backgrounds online (Zid & Casmana, 2021). In this context, everyone must understand, respect, and value others by upholding cyberspace ethics. Ethics is a system of values and norms governing people's daily behavior. This system explains that etiquette is used when interacting and communicating with others by emphasizing a written rule and an unwritten convention (Dwivedi, 2021; Johnston et al., 2018; Reynolds & Chiu, 2016). The rules of ethics and etiquette should be understood because people with different backgrounds live worldwide, which requires careful interaction. This rule explains that people must understand internet ethics and etiquette for four reasons (Muzani et al., 2022). First, users of cyberspace are people who are expected to understand and obey the same rules. Second, Internet users come from different countries with different languages, cultures, and customs, which proves that they need to understand the universally applicable rules. Third, digital users live anonymously, which confirms the need for a real interaction identity. Fourth, different characteristics are responsible for ethical and unethical behaviors, which leads to the need to understand the related concepts (Ahlquist, 2016; Barili & Byram, 2021; Guitert et al., 2021). As various important ethical points are observed online, people are expected to understand digital concepts daily. Therefore, the most important concept of digital ethics should be analyzed and understood optimally.

Rights and Obligations of Digital Citizens

Digital rights are a part of human privilege where people can access virtual content. In addition, individuals are also guaranteed legal protection in accessing, using, developing, and distributing digital elements. In this context, people have the right to enjoy and use digital content as various applicable rules are not violated. This condition is subsequently observed and called digital access (Datta, 2018; Hamer et al., 2019; Wiseman et al., 2016). Digital rights are an implementation of online human rights that are securely and privately expressed, guaranteed, and sustainable. This right proves that people cannot be shielded and limited to accessing digital media. They are also provided with the legal protections that apply in any digital world (Hamer & Finlayson, 2015; Heikka, 2015).

To better understand the rights and responsibilities of digital citizens, some previous studies have highlighted various advantages and disadvantages (Datta, 2018; Hamer et al., 2019; Wiseman et al., 2016). According to Datta (2018), some identified strengths emphasized the patterns by which the education paradigm was realized in smart cities. This pattern was important because the smart city indicator prioritized citizens with good digital ethics. Meanwhile, Hamer and Finlayson (2015) emphasized understanding citizens' rights and responsibilities. However, there seem to be some disadvantages instead of the advantages of these studies. Based on the study's strength, some rights and duties were analyzed comprehensively, such as not spreading fake news, understanding the ethics of commenting, etc.

Methodology

Study Design

This study used a qualitative approach with a descriptive method to examine students' digital literacy skills or abilities. In this context, the results were expected to reveal the students' ability level regarding digital literacy. Since digital literacy is closely related to the younger generation, high school students were considered appropriate study subjects. In addition, the descriptive method described the activities observed by Creswell (2017) about students' behavior in the school environment. The qualitative description was also expected to present and produce maximum results to obtain comprehensive data.

Sample and Data Collection

The participants were 12 undergraduate students from an Indonesian state university in the Pancasila and Civic Education program. These subjects were divided into two groups: six students from a state college in Jakarta and Bandar Lampung. These provinces were selected to describe students' knowledge in the respective State University. Table 1 details the demographic data of the study participants. This study determined the level of digital literacy in the capital city and areas outside Java, such as Lampung provinces. Then, the interactions between people in Jakarta and Lampung were conducted and described (Cohen et al., 2007).

Table 1. Demographic Information of Participants based on University Origin

No	Demographic	Number
1	Jakarta State University	6
2	University of Lampung	6
Overall		12

Table 2. Demographic Information of Participants based on Males or Females

No	Gender	Number
1	Male Students	8
2	Female Students	4
Overall		12

In this qualitative study, the instruments used were important for data collection. This importance indicates that the author was the primary instrument for obtaining appropriate data. However, several methods were used to obtain the necessary information in this paper, including interviews and observation guides. The study process expanded two main questions into several sub-points from this context. The interview questions also emphasized the patterns by which students understand digital ethics and their rights and responsibilities when joining the virtual world. Focus group discussions (FGD) were then conducted to assess students' perspectives on learning directly.

A purposive sampling technique was used to select the sample because there were three main requirements for collecting student-oriented data. These requirements included the following: (1) students should be studying in state universities in Jakarta and Lampung, (2) they should be currently studying or have studied Civic Education, and (3) students should be currently studying or have studied Pancasila education. In addition, the learning content for online citizenship was included in civics and Pancasila education, and an insufficient understanding of digital citizenship was observed among those who did not know about the general courses. In this context, the purposive sampling technique was used in the data collection to identify the different perspectives of the participants, as shown in Table 3. In addition, the researchers conducted the interview, and each participant was interviewed for about 60 minutes (see Table 3). Some of them were interviewed twice during the interview because the students needed more clarity about their understanding of digital citizenship.

Table 3. Information on the Data Collection Process and the Final Outputs Obtained

No	Data Collection Process	Data obtained
1	Initial group interview FGD	<ol style="list-style-type: none"> The patterns by which students understand digital ethics in using social media The capability of students and the methods used to comprehend the similarities between real and virtual life The attitude of students toward spreading fake news Rights of digital citizens in using social media The obligations of digital citizens in using social media

Table 3. Continued

No	Data Collection Process	Data obtained
2	Interviews with the students from Jakarta and Lampung	<ol style="list-style-type: none"> 1. The knowledge of students about digital ethics in social media 2. The teaching methods of the teachers in educating students about using word usage in real and virtual life 3. The teaching patterns of the teachers in educating students about rights 4. The teaching patterns of the teachers in educating students about obligations
3	Final interview with the students from Jakarta and Lampung	<ol style="list-style-type: none"> 1. The classroom attitude of students when learning about rights 2. The classroom attitude of students when learning about obligations

Table 3 provides an overview of the interview process for this study. Interviews were conducted with university students from both Jakarta and Lampung. In general, five interview categories were selected in the focus group discussion. First, students were asked about the patterns in which they understand digital ethics when using social media. Students consider social media popular, and they are most likely to make some comments. Second, students were asked about the capability of students and the method used to understand the similarities between real life and virtual life. This topic aimed to discover students' attitudes when unfamiliar with each other in virtual life. Third, the focus group discussion also asked about the attitude of students who spread fake news. Spreading fake news was considered unethical because it harms other people. These interview questions asked about students' understanding and attitude when they receive a message through WhatsApp or other social media. They did not understand the digital rules when they spread messages directly without verification. Finally, students were asked about their rights and responsibilities in virtual life. The rights and duties show the indicator of a good citizen. Therefore, it was considered essential to ask them. The focus group discussion was conducted four times; each session lasted about 90 minutes. Two sessions were conducted with students in Jakarta, and the other two were conducted with students in Lampung.

In addition, there were also some face-to-face interviews with students from Jakarta and Lampung available for direct questioning. The first question was related to students' knowledge of digital ethics in social media. The questions were used to verify some information about students' knowledge of social media. Second, the interview questions also aimed to inquire about the teachers' teaching methods to educate students about using words in real and virtual life. Students' characters sometimes differed between real and virtual life, so students needed to understand this. Finally, it asked about students' teaching methods to understand real and virtual life. In addition, the researchers conducted the interview, and each participant was interviewed for about 60 minutes. Some of them were interviewed twice during the interview because the students needed more clarity about their understanding of digital citizenship.

Table 4. Information on the Observation Process

No	Criteria	Categories	Description
1	Digital skills	Digital Ethics	Digital ethics shows that students are required to understand some rules during the use of the internet. From the results, students in Jakarta and Lampung understood the rules taught by the teachers.
		The similarities between virtual and real life	This category confirmed the similarities between real and virtual life, indicating that students should be very careful during the posting of online comments. In this case, students were highly observed during the use of social media.
		Spreading fake news	Spreading fake news is one of the problems for many people. Based on the results, the patterns by which the lectures were conducted regarding the rules for spreading fake news were observed in the classroom.
2	Digital rights	Digital Rights	Digital rights emphasize the knowledge of students about various online privileges. From the results, the methods by which students understood and reacted regarding digital rights were observed in the classroom.
		Digital Responsibility	Digital responsibility indicated that students in Jakarta and Lampung understood the patterns of online obligations.

Based on Table 4, the observation process was implemented to directly determine the patterns by which students in Jakarta and Lampung understood digital skills. This process focused on two main criteria, digital skills, and rights, and then observed several categories at the different universities, including description. The observation takes place twice for 100 minutes at each campus. A team of researchers from Jakarta and Lampung conducted the observation. Four researchers are lecturers from the Department of Pancasila and Civics Education in Jakarta and Lampung, who acted as researchers in conducting the observation. The observation focuses on understanding students' digital skills and digital rights.

Analyzing of Data

The process of data analysis underscored Creswell's (2017) theory through several stages, including (1) transcribing or typing interview information into an original narrative text and (2) coding or labeling various elements related to digital citizens, specifically ethics, rights, and responsibilities. In this study, the codes were developed based on the questions used to collect data, (3) data reduction or the elimination of inappropriate information, and (4) data display or the presence of information to obtain appropriate results.

To ensure the reliability of the qualitative data, several methods were used, including (1) extending the observation period to maximize the data obtained, (2) conducting data triangulation, (3) discussing with colleagues to confirm the data, (4) conducting negative case analysis, and (5) conducting member checks to confirm the data providers. This method emphasizes the accuracy and reliability of the results obtained.

Results

Digital citizenship has been considered the various activities of different people in cyberspace. Although several factors emphasized the theory of digital citizens, their activities were still observed based on the behaviors exhibited or ethics, rights, and duties. From the results, rights and duties are the most important factors understood and analyzed about digital citizens. Ethics and rights were the most important elements that highlight people's character. In this case, the results focusing on students' understanding of digital citizenship were observed, especially for ethics and rights.

Understanding of Digital Ethics for Students

Digital ethics is the character or attitude displayed when engaging in activities in cyberspace. This ethic was the most important element because it reflects the characteristics of people in online activities. In this context, a person's bad character in the digital world was the same as in daily life, indicating that people's virtual and real events were similar. Based on these results, good and polite attitudes were recommended for digital activities or statements. Therefore, students had several abilities in understanding digital activities, especially ethics, while using the internet.

The Similarities Between the Real and Virtual Worlds

Students' first understanding of the digital world emphasized general virtual and real-time statements. This finding indicated that the most important ethics in social media activities were similar to those in the real world. These results were conveyed through the interviews and observations of several students in Jakarta and Lampung. In this context, digital activities were considered good for all citizens of cyberspace.

"When I go to Instagram and see other people's profiles, then I need to be able to be careful in making comments. This is because the comments I convey should not hurt the owner of the Instagram account" Student interview 4

"If I want to comment on my friend's photos, I always think I need to filter the words I send. This is because I need to think that my words in comments do not hurt them" Student FGD 3

Based on student three from Jakarta, a similarity between the real and virtual worlds emerged when individuals shared statements on their online profiles that required appropriate care. When other people did not like these statements, the person became angry in response. This statement was because comments in the real and virtual worlds were similar, as seen on various media platforms such as Instagram, Facebook, and Twitter. These comments were usually accompanied by photos, the latest news published, or the latest status updates from friends. This condition usually attracted several elements related to the students' comments.

Student 3 from Bandar Lampung City also stated that one should be careful when posting comments on social media. This was based on the consideration of whether the content of the comments was good or bad before posting them. From this context, the student's attitude towards the comments was polite because they displayed appropriate behavior. During the FGD, students were also given an example from social media to determine their attitude toward the comments. This finding showed that Jakarta and Bandar Lampung students had very good attitudes towards making comments, according to their responses in the interviews and FGD sessions. In addition to social media comments, some students commented on the online shop product review. Since most of them had never bought a bad product, the comments were highly provided.

"I have also commented on the seller from the online shop about the product I bought. When the product is good, I give a good review or comment, and vice versa. If the product is not good, then I also give a bad review" Student interview 3

"As for me, I actually never give some comments on the product review online. However, at that time, I received a bad product. The product was broken, and I cannot return it without any reason. I then give the seller star 1 and review based on the real product" Student FGD 6

Students often expressed opinions by submitting comments on e-commerce or online merchants besides from social media. For example, a buyer is often provided with a review of the product purchased, such as photos or comments, during the arrival of the goods. In this case, students from Lampung stated that when they buy goods from an online shop, comments were often provided depending on the products. This finding indicated that students understood the similarities and differences between the real and virtual worlds. From these results, the communication delivered in the real world was the same as the type digitally provided. This signified that all messages conveyed in the virtual or digital worlds were completely similar. Therefore, ethics were needed when digitally and realistically expressing opinions. These could be carried out without conducting hate speech against those reading the comments submitted to obtain positive remarks.

Based on the results, student six from Jakarta regularly purchased products digitally, such as reference books, food, etc. On one occasion, the student obtained a very bad product, a broken power bank, with the seller not willing to refund the payment. This result prompted the commencement of the student to provide a one-star and a bad review. From the responses of the Jakarta and Lampung students during the interview and FGD sessions, comments were often provided for online shops depending on the products obtained and the seller's reviews. This finding indicated that both students provided unpolite reviews due to the bad products acquired from the online shops.

From these results, the understanding of students on digital ethics was very good, especially in providing real and virtual comments. This finding indicated that students from Jakarta and Lampung understood the patterns of providing comments on social media and online shops. From this context, the comments on social media should be filtered to ensure that no individual becomes hurt. The comments on online shops emphasized the product obtained, indicating that students understood digital ethics.

Not Spreading Fake News

Fake or hoax news is not expected to be conveyed or disseminated to others. This finding is one form of digital ethics everyone needs, as fake news often causes anxiety, hatred, and hostility to readers. Although these hoaxes did not recognize the person, readers often became angry. This finding indicated that withstanding and verifying various news should be initially conducted before public dissemination. The source of information conveyed was also unclear due to being inappropriate. Moreover, fake news sources commonly contain fanaticism, where the title and introduction are very provocative. This finding implied the necessity to maintain and determine the truth.

"I know and understand that any fake news shared by someone can result in hatred or hostility, even though everyone does not know it yet" Student interview 1

"I have never received the news on the WhatsApp group. I thought that the news was fake, and I have tried to read the same topic from other sources to make sure the validity of the news" Student FGD 12

Based on these interviews and FGD sessions, students understood that the general public commonly consumed fake news without complete realization. This result proved that the news or information conveyed through social media should be considered and maintained for its truth and validity. From this context, the validation process could enable independent responses to the news.

During FGD on fake news dissemination, most students from Jakarta and Lampung argued that reading more sources helped determine the validity of various news. For example, a participant from Jakarta believed that other resources from different news need to be considered for validity purposes. When the information from the WhatsApp group was obtained, much belief was not attached to the source. However, the willingness to share the information was observed after consideration and confirmation from other sources.

"I always verify news or information I get through social media. For example, by checking several news sources so that the information I get is comprehensive" Student interview 9

According to student nine from Lampung, the validity of news before public dissemination was also helpful. This indicated that the participants validated data or news through various sources before dissemination. For instance, the information from Kompas or CNN should be compared with other sources such as Media or BBC Indonesia. In this case, digital ethics were applied in the learning process when students verified and validated the news obtained.

In this study, the communication activities of students on social media were examined, especially when commenting or obtaining information from unverified sources. Based on the interview and observation sessions, students had good digital and ethical attitudes. Meanwhile, the interview and FGD sessions showed that students from Jakarta and Lampung

had high digital literacy skills, especially in the non-distribution of fake news. This was because hoaxes negatively affected society, with all the participants highly understanding the issue. From their perspectives, double-checking for appropriate information validation was helpful in the non-distribution of bad news. FGD also showed high digital literacy skills in emphasizing fake news.

Understanding of Students on Rights and Obligations of Digital Citizens

The rights and obligations of online citizens were the main factors influencing digital citizenship. From the results, various rights and obligations were determined to form the inherent character of every student. These rights emphasize the privileges and obligations of an individual during digital activities. Therefore, restrictions should be provided regarding the rights and obligations of digital citizens. The following observation session was conducted in the classroom during the lecturer's explanation of the material to understand these factors better.

Observation Notes

Based on the observation, the lecturer conducted activities to help students understand digital rights and responsibilities. Three main activities were observed in this case: Introduction theory, student group discussion, and evaluation. In the introduction section, the lecturer provided rights and responsibilities, which included different ideologies, such as the requirements to be a citizen in the digital age. Students focused on the lecture during this session and were eager to learn the issue. Some explanations were also given through video footage to ensure proper understanding. During the reference period, students read several relevant books and journals before coming to the classroom, which led to a quick understanding of the session. This understanding allowed the lecturer to easily provide the issues for study in the classroom.

After the discussion session, students were divided into several groups, and each group was assigned a topic related to digital rights and responsibilities. For example, the patterns of wisdom in using the Internet, how to respect online users, etc. The students were very interested in this discussion, as evident from their perspective. Therefore, the lecturer made some assessments to measure the student's understanding of digital rights and responsibilities. The assessment also consisted of some relevant essay questions and issues.

Digital Citizens' Rights

Digital rights guarantee citizens access, use, development, and dissemination of digital media. This finding points to three main aspects of digital rights: the privilege to access the Internet, to express themselves, and to protect personal information in the digital space. In this case, the students from Jakarta and Lampung also understood the rights of digital citizens. Because of the privilege of Internet access, Jakarta was highly digitally connected and a daily necessity for its residents and neighbors, Lampung. Therefore, this initial privilege was one of the most important elements, suggesting that knowledge of digital citizens' rights, in general, was mandatory.

"As digital citizens, the internet is one of the basic needs at this time. Therefore, rights to get internet becomes a major need"
Student interview 3

"During the COVID-19 pandemic, learning was conducted online, so the internet became the main tool for attending lectures. Rights to get access to the internet is the main tool in the learning process" Student interview 5

After the interview session, participants agreed that the Internet was the primary need. During the COVID-19 pandemic, the Internet was a means of communication through WhatsApp, Telegram, and other social media platforms. This finding proves that social media allows for accessible communication and faster dissemination of information. The Internet was also used for learning, as some universities commonly used hybrid learning. In this case, students used different applications such as Zoom, Ms. Team, and Google Meets for the learning process. In addition, the Internet became an entertainment medium for students as it provided various contents. The results showed that the students in Jakarta and Lampung had preliminary knowledge about digital rights and responsibilities. This knowledge was due to their reading abilities during the observation session before attending class. Reading and comprehension of references were strongly emphasized in this case, with direct responses and perspectives on the learning topics in the classroom. This finding indicated that students understood digital rights and responsibilities very well.

The second right of digital citizens states that everyone has the freedom to express themselves to ensure diversity of content. Since social and entertainment media such as YouTube, Instagram, and TikTok were available, people could develop content. As a result, these applications were able to develop commercial content with higher income.

"I am very happy to make content about lectures and student activities, so this YouTube helps me make it entertainment"
Student interview 9

"Besides studying, I enjoy cooking. So besides being a hobby, it can help me create content about cooking on the internet"
Student interview 10

Interviews indicate that Internet content entertains people in their free time or while waiting in a public area. This suggests that the freedom to develop content became the main topic and discussion because of its benefits to the content creators and those entertained. For example, an individual with a cooking or learning hobby could use the Internet for culinary or academic content. This helped people learn and provided content to the Internet world. During the observation assessment, several results were obtained regarding the freedom to express different opinions. This proves that all students understood the freedom to express their perspectives online. During the FGD session, students from Jakarta and Lampung also confirmed that they often expressed their views at least once online. These perspectives generally stemmed from the original idea, indicating that the participants had all had experience expressing ideas.

The results highlighted the right to protect personal data in the digital space, such as the private identity card, which is responsible for keeping people safe from cybercrime. Other personal data included identity cards, signatures, and other important documents.

"Currently, many cases occur due to misuse of personal data used by illegal online loans, so it is necessary to get legal protection" Student interview 11

"One of my friends once got a large debt bill from an online loan, even though he had never borrowed. This is because his cellphone was lost and used by certain people" Student interview 12

Based on the interview sessions, one form of cybercrime was the case regarding personal data use due to theft exploited by illegal online loans not permitted by the government. For instance, a lost cellphone was often used to obtain personal data, such as identity cards, to acquire money illegally. This led to the importance of strongly protecting personal data. During the observation session, these issues were discussed for the great understanding of students, providing some information about the negative impact of spreading personal data. This showed that most students often protected their data, although some did not understand the safety measures. From this context, the negative impact of losing private data, such as identity cards, emphasized the risk of usage by fraudsters to loan money. Therefore, these personal data were considered important, with appropriate protection recommended for people with digital rights. Based on these results, the Jakarta and Lampung students understood digital rights issues regarding their perspectives during FGD and observation sessions. This indicated that digital rights were successfully taught to them, with the negative impact capable of being avoided.

Digital Citizens' Obligations

Digital citizen's obligation was an activity for everyone as a member of an online community. This should be carried out appropriately without interfering with the rights of others. Moreover, it was closely related to and inseparable from the rights of several individuals. Therefore, rights and duties were two interdependent conditions with similar perspectives acceptable to the community. In the digital world, a duty was also helpful in performing specific individual and cooperative privileges. The results show that digital citizens should follow online community rules, comment politely, and not plagiarize others' work.

"As a member of the online community, the online community should have obligations that everyone should obey and are not contradictory" Student interview 6

The interviews show that every online community has rules or policies that should be followed and adhered to, such as respecting others' posts and not speaking rudely. To avoid conflicts, these rules ensured that people lived in harmony and peace when they entered the online world. In addition, the next obligation emphasized not plagiarizing other people's content. In this case, copying and pasting without including the source was highly prohibited. For instance, when students obtain assignments from lecturers, they are not expected to plagiarize and claim other people's work when provided with assignments from the lectures.

"Plagiarism is very bad behavior in the academic world, so this needs to be avoided. As digital citizens, one should be able to avoid this" Student interview 5

"Plagiarism is the worst form in the academic world. When someone plagiarizes, it means that person is not able to make his own work" Student interview 3

According to the responses of two students during the interview, avoiding plagiarism was a commitment that digital citizens should adhere to. This suggests plagiarism is a disgrace and should be avoided when instructors set assignments. Using a Turnitin detection engine to avoid plagiarism was recommended in this case. This website was helpful for students working on their final projects where duplication should be avoided by paraphrasing assignment similarities. In addition, students must practice personal writing and be orthographically creative to fulfill the obligations of a digital citizen. The next obligation was to comment politely on the posts of others without sparking anger in readers.

"Commenting on social media is now something that everyone very much does. With these comments, it is necessary to be careful so as not to hurt other people's feelings" Student interview 10

From the interviews, using polite language when posting opinions and photos effectively avoided bad comments. This ensured the other party's happiness through the statements and attitudes in the comments. In addition, digital obligation played an important role for students in Lampung and Jakarta. During the observation process, teachers used a specific case study to teach the topic of commitment. This case study was distributed to both campuses, and students were asked to comment on the issue. The results show that students in Jakarta and Lampung fully understood the context of citizens' obligations.

Discussion

The results show that digital citizens use technology to obtain political information and to perform their civic duties. They often connect to the Internet and interact more with computers, a phenomenon known as human-computer interaction. The Internet became a primary need as digital citizens obtained information through these tools. In addition, digital citizenship was achieved using some of the latest technologies. These findings highlight the comparative analysis of digital ethics with online rights and responsibilities.

In digital citizenship theory, nine main components of virtual citizens have been observed (Guitert et al., 2021; Reynolds & Chiu, 2016; Wiseman et al., 2016), namely online access, commerce, communication, literacy, ethics, law, rights and obligations, health, and safety. However, the analytical results prioritized digital ethics, rights, and obligations. The reason was that these two aspects were the main criteria for living as a virtual citizen.

Based on the results, digital ethics was considered an unwritten rule in online activities at work and on social media. According to McNaughton et al. (2022), interaction and communication in the Internet world had a relationship that required adherence to specific rules (McNaughton et al., 2022), including procedures for communicating, expressing opinions, and commenting on photos and videos. These findings supported Barili and Byram's (2021) view that people need rules to maintain attitudes and behaviors to apply a community ethic. In this context, applying digital ethics was critical to maintaining behaviors and attitudes in cyberspace (Barili & Byram, 2021).

The results also revealed two main elements in the digital maintenance and application of ethics in cyberspace activities (Heikka, 2015; Rahmadi et al., 2020), including the similarity between the real and virtual worlds, as reported by the participants. In this case, the reader was a human, although they did not meet in cyberspace. This indicates that they used computers or cell phones to communicate.

Based on mass media news sources, everyone was expected to competently filter the available information to prevent the spread of fake news. These findings are consistent with Reynolds and Chiu's (2016) that people have civic competencies to filter and eliminate fake news and communicate through social media (Reynolds & Chiu, 2016). The competencies also enable a person to coexist, implement, and use social media appropriately. Therefore, students in Lampung and Jakarta completed and supported the online learning process on digital ethics.

Based on the emotional level of an individual, the implementation of digital ethics was also observed. According to Madon and Schoemaker (2021), emotions were observed when communicating with strangers on social media and reading rude comments (Madon & Schoemaker, 2021). In this context, ignoring the comments and communicating effectively indicated success in applying digital ethics principles. However, the failure to control emotional expressions from strangers emphasized poor digital ethics.

From the results, digital rights and responsibilities need to be understood and adopted by everyone (Dwivedi, 2021; Lidén, 2016). This was because the components enabled the development and increased awareness as digital citizens. According to Dwivedi (2021), these citizens had the right to access the Internet, develop content, express themselves, and receive personal data protection. These findings support a previous study on the importance of digital rights and responsibilities for online citizens.

Lidén (2016) also found that the privilege to protect personal data and privacy is among the most fundamental rights of digital citizens. People often use digital technology to store data in the present era, although rights and obligations have been abused. According to O'Connor et al. (2020), one form of digital crime is personal data trading, a costly illegal sale, and purchase of private information to achieve profitable interests (O'Connor et al., 2020). Therefore, the protection of digital data was recommended for the security of personal rights.

Conclusion

The results show that digital citizenship is a concept in which people process and accept virtual activities. In this context, students in Jakarta and Lampung have already acquired knowledge and skills in digital citizenship. This emphasized their understanding of the following elements: (a) digital ethics, (b) no difference between real life and cyberspace, and (c) frequent initial verification before spreading fake news. These elements were conveyed by observing that instructors taught specific materials on digital citizenship in class. Therefore, students did not understand the true meaning of digital citizenship until after class.

Based on the knowledge of digital skills, online citizens also understood the concept of rights and responsibilities, the core learning material in Jakarta and Lampung. Based on these findings, it was determined that college students needed digital citizenship skills. This emphasized ethics, rights, and responsibilities, the important variables to becoming digital citizens. In addition, digital ethics was an unwritten rule during online activities, which improved understanding of the various factors that prioritize behavior in virtual events. From the results, students should maintain communication as online and offline activities are similar. Verifying certain messages and information was also necessary to avoid spreading fake and provocative data. This indicates that validation should be done by comparing with other sources of information before the message is disseminated. Other important factors were the rights and obligations of digital citizens, which were evident in the privilege of Internet access, freedom of expression, and personal data protection. These rights require special state protection as a guarantee for the legal community to conduct digital activities comfortably.

In conclusion, there are some similarities and differences between the findings of this research and previous studies that are worth discussing. There are two similarities with previous studies. First, the result shows students' understanding of digital citizens and their attitude toward Internet use. In addition, the result shows that all people should avoid the spread of Fake News. The second similarity sheds light on the understanding of rights and responsibilities. This is important to the concept of rights and responsibilities because it provides knowledge to students.

The difference between this study and previous studies can be seen in several aspects. First, the research participants in some studies are elementary and high school students. However, this study focuses on university students. In addition, although some studies also refer to digital skills, their research focuses on teaching media literacy and protecting creative rights.

Recommendations

The results obtained are recommended for further analysis, especially for those interested in digital citizenship. In this case, the analysis should futuristically involve other universities to understand the concept of digital citizenship in a general and adequate way. The period of experimental implementation also needs to be extended to obtain more data. In addition, other researchers interested in studying digital citizenship can focus on digital rights and responsibilities, and teachers are proposed as participants. It will study the teaching method and teachers' experience educating digital citizens. Finally, a study on the learning media that teachers can use to educate students to become digital citizens might be interesting. Future research should therefore address a wide range of digital citizenship issues.

Limitations

Several weaknesses were identified in this study. First, the data collection process was brief, involving only 12 participants. From this context, the results could not be generalized to all students in Jakarta and Lampung. Second, students knew they were self-observed, potentially leading to fake responses. Therefore, future studies should obtain maximum data through more in-depth observations.

Acknowledgment

Thank you to the rector of *Universitas Negeri Jakarta and Lembaga Penelitian dan Pengabdian kepada Masyarakat*, who have supported this research with contract No. 20/KN/LPPM/III/2023.

Authorship Contribution Statement

Japar: Conceptualization, design, analysis, writing. Casmana: Editing/reviewing, conceptualization, design, analysis, writing, translating. Adha: Editing/reviewing, conceptualization, design, analysis, writing, translating. Fadhillah: Editing/reviewing, conceptualization, design, analysis, writing, translating.

References

- Adha, M. M., & Yanzi, H. (2013). Model pengembangan pembelajaran pendidikan kewarganegaraan berbasis multikultur dalam rangka menanamkan nilai-nilai ham dan demokrasi [Multicultural-based citizenship education learning development model in the context of instilling human rights and democracy values]. *Media Komunikasi FPIPS*, 12(2), 1–16. <https://bit.ly/EJOURNAL-UNDIKSA>
- Ahlquist, J. (2016). The digital identity of student affairs professionals. *New Directions for Student Services*, 2016(155), 29–46. <https://doi.org/10.1002/ss.20181>
- Ahlquist, J. (2017). Digital student leadership development. *New Directions for Student Leadership*, 2017(153), 47–62. <https://doi.org/10.1002/yd.20229>
- Barili, A., & Byram, M. (2021). Teaching intercultural citizenship through intercultural service learning in world language education. *Foreign Language Annals*, 54(3), 776–799. <https://doi.org/10.1111/flan.12526>

- Bartlett, R., Gjernes, T., Lotherington, A.-T., & Obstfelder, A. (2018). Gender, citizenship and dementia care: A scoping review of studies to inform policy and future research. *Health & Social Care in the Community*, 26(1), 14–26. <https://doi.org/10.1111/hsc.12340>
- Blaj-Ward, L., & Winter, K. (2019). Engaging students as digital citizens. *Higher Education Research and Development*, 38(5), 879–892. <https://doi.org/10.1080/07294360.2019.1607829>
- Blumberg, F. C., Deater-Deckard, K., Calvert, S. L., Flynn, R. M., Green, C. S., Arnold, D., & Brooks, P. J. (2019). Digital games as a context for children's cognitive development: Research recommendations and policy considerations. *Social Policy Report*, 32(1), 1–33. <https://doi.org/10.1002/sop2.3>
- Buchholz, B. A., DeHart, J., & Moorman, G. (2020). Digital citizenship during a global pandemic: Moving beyond digital literacy. *Journal of Adolescent & Adult Literacy*, 64(1), 11–17. <https://doi.org/10.1002/jaal.1076>
- Casmana, A. R., Dewantara, J. A., Timoera, D. A., Kusmawati, A. P., & Syafrudin, I. (2023). Global citizenship: Preparing the younger generation to possess pro-environment behavior, mutual assistance and tolerance awareness through school engagement. *Globalisation, Societies and Education*, 21(1), 15–32. <https://doi.org/10.1080/14767724.2021.2013167>
- Castaño-Pulgarín, S. A., Suárez-Betancur, N., Vega, L. M. T., & López, H. M. H. (2021). Internet, social media and online hate speech. Systematic review. *Aggression and Violent Behavior*, 58, Article 101608. <https://doi.org/10.1016/j.avb.2021.101608>
- Chaudhry, I., & Gruzd, A. (2020). Expressing and challenging racist discourse on Facebook: How social media weakens the "spiral of silence" theory. *Policy and Internet*, 12(1), 88–108. <https://doi.org/10.1002/poi3.197>
- Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education* (6th ed.). Routledge.
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods*. SAGE Publication Inc.
- Damanhuri, D., & Juwandi, R. (2020). Studi analisis pembelajaran pendidikan kewarganegaraan berbasis praktik kewarganegaraan digital sebagai upaya peningkatan kualitas literasi digital warga negara di provinsi banten [Study of learning analysis of citizenship education based on digital citizenship practices as an effort to improve citizens' digital literacy quality in Banten province]. *Untirta Civic Education Journal*, 5(2), 134–148. <https://bit.ly/UCEJ-UNTIRTA>
- Datta, A. (2018). The digital turn in postcolonial urbanism: Smart citizenship in making India's 100 smart cities. *Transactions of the Institute of British Geographers*, 43(3), 405–419. <https://doi.org/10.1111/tran.12225>
- Dwivedi, A. K. (2021). Role of digital technology in freshwater biodiversity monitoring through citizen science during COVID-19 pandemic. *River Research and Applications*, 37(7), 1025–1031. <https://doi.org/10.1002/rra.3820>
- Gazi, Z. A. (2016). Tüm eğitim kademesinin geleceği için dijital vatandaşlığın içselleştirilmesi [Internalization of digital citizenship for the future of all levels of education]. *Education and Science/Eğitim ve Bilim*, 41(186), 137–148. <https://doi.org/10.15390/EB.2016.4533>
- Goodman, N., McGregor, M., Couture, J., & Breux, S. (2018). Another digital divide? evidence that elimination of paper voting could lead to digital disenfranchisement: Elimination of paper voting in local elections. *Policy & Internet*, 10(2), 164–184. <https://doi.org/10.1002/poi3.168>
- Guitert, M., Romeu, T., & Baztán, P. (2021). The digital competence framework for primary and secondary schools in Europe. *European Journal of Education*, 56, 133–149. <https://doi.org/10.1111/ejed.12430>
- Häkli, J., Kallio, K. P., & Ruokolainen, O. (2020). A missing citizen? issue-based citizenship in city-regional planning. *International Journal of Urban and Regional Research*, 44(5), 876–893. <https://doi.org/10.1111/1468-2427.12841>
- Hamer, H. P., & Finlayson, M. (2015). The rights and responsibilities of citizenship for service users: Some terms and conditions apply. *Journal of Psychiatric and Mental Health Nursing*, 22(9), 698–705. <https://doi.org/10.1111/jpm.12258>
- Hamer, H. P., Rowe, M., & Seymour, C. A. (2019). The right thing to do: Fostering social inclusion for mental health service users through acts of citizenship. *International Journal of Mental Health Nursing*, 28(1), 297–305. <https://doi.org/10.1111/inm.12533>
- Heikka, T. (2015). The Rise of the mediating citizen: Time, space, and citizenship in the crowdsourcing of Finnish legislation. *Policy & Internet*, 7(3), 268–291. <https://doi.org/10.1002/poi3.98>
- Irawan, H., & Firdaus, K. B. (2021). Resiliensi Pancasila di era disrupsi: Dilematis media sosial dalam menjawab tantangan isu intoleransi [Pancasila resilience in the era of disruption: The dilemma of social media in responding to the challenges of intolerance]. *Jurnal Paris Langkis*, 1(2), 36–47. <https://doi.org/10.37304/paris.v1i2.2509>

- Jesson, R., McNaughton, S., & Wilson, A. (2015). Raising literacy levels using digital learning: A design-based approach in New Zealand. *The Curriculum Journal*, 26(2), 198–223. <https://doi.org/10.1080/09585176.2015.1045535>
- Johnston, K., Highfield, K., & Hadley, F. (2018). Supporting young children as digital citizens: The importance of shared understandings of technology to support integration in play-based learning. *British Journal of Educational Technology*, 49(5), 896–910. <https://doi.org/10.1111/bjet.12664>
- Jones, L. M., & Mitchell, K. J. (2016). Defining and measuring youth digital citizenship. *New Media and Society*, 18(9), 2063–2079. <https://doi.org/10.1177/1461444815577797>
- Khaerun Rijaal, M. A. (2021). The phenomenon of intolerance between religious communities and the role of social media accounts on the Gusdurian Indonesia network's Instagram in conveying messages of tolerance. *SHIAR: Journal of Islamic Communication and Broadcasting*, 1(2), 101-114. <https://doi.org/10.54150/syiar.v1i2.41>
- Kolomitz, K., & Cabellon, E. T. (2016). A strategic necessity: Building senior leadership's fluency in digital technology. *New Directions for Student Services*, 2016(155), 47–57. <https://doi.org/10.1002/ss.20182>
- Lidén, G. (2016). Inequality in local digital politics: How different preconditions for citizen engagement can be explained. *Policy & Internet*, 8(3), 270–291. <https://doi.org/10.1002/poi3.122>
- Madon, S., & Schoemaker, E. (2021). Digital identity as a platform for improving refugee management. *Information Systems Journal*, 31(6), 929–953. <https://doi.org/10.1111/isj.12353>
- Martin, F., Gezer, T., & Wang, C. (2019). Educators' perceptions of student digital citizenship practices. *Computers in the Schools*, 36(4), 238–254. <https://doi.org/10.1080/07380569.2019.1674621>
- McNaughton, S., Zhu, T., Rosedale, N., Jesson, R., Oldehaver, J., & Williamson, R. (2022). In-school and out of school digital use and the development of children's self-regulation and social skills. *British Journal of Educational Psychology*, 92, 236–257. <https://doi.org/10.1111/bjep.12447>
- Miller, G. H., Marquez-Velarde, G., Williams, A. A., & Keith, V. M. (2021). Discrimination and black social media use: Sites of oppression and expression. *Sociology of Race and Ethnicity*, 7(2), 247–263. <https://doi.org/10.1177/2332649220948179>
- Muzani, M., Fatimah, A. N., Imsa, M. A., & Casmana, A. R. (2022). The obstacles hierarchy of school disaster preparedness implementation in Mount Sinabung area, Indonesia. *Frontiers in Education*, 7, Article 842990. <https://doi.org/10.3389/educ.2022.842990>
- O'Connor, U., Worden, E. A., Bates, J., & Gstrein, V. (2020). Lessons learned from 10 years of citizenship education in Northern Ireland: A critical analysis of curriculum change. *The Curriculum Journal*, 31(3), 479–494. <https://doi.org/10.1002/curj.2>
- Oyedemi, T. (2014). Beyond access: Youth and digital skills. *South African Journal for Communication Theory and Research*, 40(2), 137-154. <https://doi.org/10.1080/02500167.2014.907191>
- Pahlavi, F. S. (2017). Eksistensi pendidikan kewarganegaraan di perguruan tinggi dalam memperkokoh karakter bangsa Indonesia [The existence of citizenship education in higher education in strengthening the character of the Indonesian nation]. *Jurnal Ibriez: Jurnal Kependidikan Dasar Islam Berbasis Sains*, 2(1), 65–82. <https://doi.org/10.21154/ibrriez.v2i1.26>
- Pan, S., Yang, C.-C., Tsai, J.-Y., & Dong, C. (2021). Experience of and worry about discrimination, social media use, and depression among Asians in the United States during the COVID-19 pandemic: Cross-sectional survey study. *Journal of Medical Internet Research*, 23(9), Article e29024. <https://doi.org/10.2196/29024>
- Peterson, A., & Bentley, B. (2017). Education for citizenship in South Australian public schools: A pilot study of senior leader and teacher perceptions. *The Curriculum Journal*, 28(1), 105–122. <https://doi.org/10.11591/ijere.v10i4.21767>
- Prasetyo, W. H., Naidu, N. B. M., Tan, B. P., & Sumardjoko, B. (2021). Digital citizenship trend in educational sphere: A systematic review. *International Journal of Evaluation and Research in Education*, 10(4), 1192-1201. <http://doi.org/10.11591/ijere.v10i4.21767>
- Rahmadi, I. F., Hayati, E., & Nursyifa, A. (2020). Comparing pre-service civic education teachers' TPACK confidence across course modes. *Research in Social Sciences and Technology*, 5(2), 113–133. <https://doi.org/10.46303/ressat.05.02.7>
- Reynolds, R., Aromi, J., McGowan, C., & Paris, B. (2022). Digital divide, critical-, and crisis-informatics perspectives on K-12 emergency remote teaching during the pandemic. *Journal of the Association for Information Science and Technology*, 73(12), 1665-1680. <https://doi.org/10.1002/asi.24654>

- Reynolds, R., & Chiu, M. M. (2016). Reducing digital divide effects through student engagement in coordinated game design, online resource use, and social computing activities in school. *Journal of the Association for Information Science and Technology*, 67(8), 1822–1835. <https://doi.org/10.1002/asi.23504>
- Salajan, F. D. (2019). Building a policy space via mainstreaming ICT in European education: The European Digital Education Area (re)visited. *European Journal of Education*, 54(4), 591–604. <https://doi.org/10.1111/ejed.12362>
- Sparks, J. R., Katz, I. R., & Beile, P. M. (2016). Assessing digital information literacy in higher education: A review of existing frameworks and assessments with recommendations for next-generation assessment. *ETS Research Report Series*, 2016(2), 1–33. <https://doi.org/10.1002/ets2.12118>
- Stover, K., Yearta, L., & Harris, C. (2016). Formative assessment in the digital age: Blogging with third graders. *The Reading Teacher*, 69(4), 377–381. <https://doi.org/10.1002/trtr.1420>
- Sumadi, T., & Casmana, A. R. (2020). The Importance of Social Competences Transformation towards Early Age Children in Jakarta. *Universal Journal of Educational Research*, 8(5), 1991–1996. <https://doi.org/10.13189/ujer.2020.080536>
- Torres, C. A. (2015). Global citizenship and global universities. The Age of Global Interdependence and Cosmopolitanism. *European Journal of Education*, 50(3), 262–279. <https://doi.org/10.1111/ejed.12129>
- Wang, Z. (2021). Experiential marketing: Will it affect customer citizenship behavior? An empirical study of multiple mediation model in Thailand. *Journal of Community Psychology*, 49(6), 1767–1786. <https://doi.org/10.1002/jcop.22550>
- Weinberg, J., & Flinders, M. (2018). Learning for democracy: The politics and practice of citizenship education. *British Educational Research Journal*, 44(4), 573–592. <https://doi.org/10.1002/berj.3446>
- Wen, H., & Shinas, V. (2021). Transforming international pre-service teachers' pedagogy in the era of multiliteracy: A case study. In *The Asian Conference on Education 2020: Official Conference Proceeding*. The International Academic Forum (IAFOR). <https://doi.org/10.22492/issn.2186-5892.2021.41>
- Wiseman, A. W., Abdelfattah, F. A., & Almassaad, A. (2016). The Intersection of citizenship status, STEM education, and expected labor market participation in gulf cooperation council countries. *Digest of Middle East Studies*, 25(2), 362–392. <https://doi.org/10.1111/dome.12087>
- Zid, M., & Casmana, A. R. (2021). A learning model for teaching "population geography" course in higher education through case study of international women's migration. *Journal of Social Studies Education Research*, 12(3), 120–143. <https://bit.ly/3Ei7Hv3>