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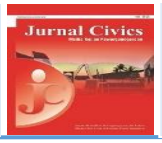

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"It really needs to be given to students" digital citizenship understanding amongst student teachers: Qualitative Nvivo analysis

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ABSTRACT
Although the internet provides benefits, teachers' role as central figures in the learning process is imperative. Due to misuse and abuse of technology, promoting digital citizenship for student teachers was challenging. Using nine elements of digital citizenship by Mike Ribble, this study explores the knowledge and comprehension of digital citizenship (DC) among twenty student teachers involved in semi-structured interviews, observation, and documentation. The result of thematic analysis with Nvivo 12 Plus indicates that student teachers assume that DC incorporates digital literacy, the standard of behaviors, and moral guidance in an online environment. The study contributes to providing insight regarding appropriate behavior in technology use. Further studies may need to be conducted regarding teacher preparation in managing the integration of digital citizenship into the teacher education curriculum.

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Introduction

The emergence of the internet has reformed the educational system, especially in 21st-century education. It is widely known that the internet promotes education beyond geographical and time boundaries (Harsasi, 2015; Kuntoro & Al-Hawamdeh, 2003). Learning culture has moved from face-to-face to virtual learning. Students join an online course to get materials, present their tasks, or do an exam within the digital environment without leaving their house. Moreover, the internet is beneficial for simplifying school administration and provides ease of school interaction with parents to supervise students (Pannen, 2014; Sekarasih, 2016).

Although the internet provides benefits, teachers' role as central figures in the learning process is imperative. They are virtuous personalities, and digital aids can never replace them, not just the source of materials. Unlike digital tools, the teacher provides personality and character traits such as curiosity, enthusiasm, and compassion. In other words, all teachers must pass on various social values to students (Mitchell et al., 2001). Consequently, all teachers are considered to represent the highest standard of self-character value, especially to face the infiltration of technology into the education realm.

To date, Indonesia has struggled with some threats of technology use in educational settings, such as cybercrime, the massive distribution of pornography, plagiarism, and cyberbullying (Adiningrum, 2015; Paterson, 2019; Sulistyo & Manap, 2018). Teachers were expected to address appropriate behaviors for students regarding digital media about the complex issues. They should realize that their responsibilities are limited to sending material, assessing student performance, and

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accompanying students to deal with these problems, building discipline, character, emotional development, and social development (Shaffer et al., 2015). They are required to be aware of the impact of technology on human beings, which they are supposed to prepare students. In this context, digital citizenship is a necessity that all teachers have an awareness to equip students with the readiness to use technology responsibly and safely.

On the other hand, most teachers are not adequately prepared and less trained to promote digital citizenship (DC) and teach digital competencies to students (Ribble, 2012a). For instance, when students are involved in cyberbullying and accessing pornographic websites, school principals and teachers prefer to restrict internet access and mobile phones to solve digital threats without protecting student rights (Niña M. Ruiz, 2019). At the same time, there are no significant policies to provide provisions for teachers and students in dealing with these problems.

Literature that explains how policies in teacher education reform in Indonesia respond to the digital era is not abundant. Most studies focus on developing ICT capability enhancement for teachers (Djiwandono, 2019; Habibi et al., 2019; Putra et al., 2019) and the use of Learning Management Systems (LMS) or e-learning (Badaruddin et al., 2019; Rahman et al., 2019). The National Education Standards mentioned providing equipment and infrastructure, including the learning resources needed to support online learning (Jalal et al., 2009). Furthermore, within the four competencies of professional teachers, no document explicitly informed the preparation of digital citizenship in the teacher education curriculum. Except for technical skills, teachers must solve non-cognitive problems using technology. As explained earlier, preparing student teachers is crucial to promoting digital citizenship in their students.

Nevertheless, teacher education in Indonesia does not explicitly prepare instruction for teachers, including knowledge base and skills, and determine their behavior to accommodate digital citizenship. All this time, the teacher education curriculum merely teaches ICT skills material. It makes digital-based learning media that are only given in the upper semester, namely, computer courses and learning media courses (Merdekawati, 2018). Student teachers get two credit hours, which insufficiently builds their awareness and comprehension in navigating the digital world. As a result, their ability to operate ICT might be low in the workspace due to the lack of IT support, limited access, and less training (Mahdum et al., 2019). Noticeably, student teachers' challenges are not limited to the ability to operate ICT but the understanding and awareness of technology misuse and abuse among students. Accordingly, student teachers are unprepared to teach digital citizenship. Still, they may hesitate to promote the responsible use of technology at home and school.

This study investigates the knowledge and comprehension of digital citizenship among student teachers based on Ribble's work. Digital citizenship by Ribble was the established framework to solve the inappropriate use of technology. According to Walters (2018), it "provided a structure, as it has become the cornerstone to analyze and measure teacher perceptions regarding technology and teaching." (p. 13). Thus, scholars adopt the framework to analyze and design educational curricula and policies to develop the readiness of students and teachers for the use of technology. Ribble's work maps student teachers' familiarity with technology, especially digital tools, that depicted their initial understanding of digital citizenship. To illustrate student teachers' comprehension, how they experience and create digital footprints would show the knowledge of digital citizenship. The following sub-section explores an in-depth analysis of how student teachers expressed their perceptions, including the notion of digital citizenship beyond their capabilities to use technology. It depicts their perspective relates to values, morality, and ethics of human relationship with technology itself. The idea would be generated to describe the goals of digital citizenship through the lens of teacher candidates. The research question guiding this component of the more extensive study were the following:What is student teachers' knowledge and comprehension of digital citizenship based on Ribble's work?

Method

Research questions that guided this study were based on social reality stand. We positioned ourselves within a perception that digital citizenship competence is dynamically constructed with the constructivist research paradigm during the study process. Within the paradigm, our role was to describe a phenomenon in natural settings concerning reality as the construction of perception of the physical and social world around them. We did this study to "attempt to make sense of or to interpret phenomena in terms of the meanings people bring to them." (Mertens, 2015).

The qualitative approach was employed regarding the research objectives because it can explain something that happened to make sense for humans (Patton, 2015). We agreed with Merriam and Tisdell (2016) that using a qualitative approach, even in a single event, we can find multiple realities or interpretations that can be applied to construct a "knowledge." Consequently, as a qualitative researcher, we intensively conducted capturing and understanding using various perspectives, gathering data using observing and interviewing, then analyzing and examining patterns of human behavior.

Through purposive sampling, we invited twenty student teachers, from the faculty of teacher training and education, Universitas Muhammadiyah Surakarta, to multi-techniques collecting data, including semi-structured interviews, observation, and documentation. We accepted Patton's notion (2015) that determining sample size in qualitative was an argumentative process of how researchers focus on what they want to know, what is valuable and credible, and can be done under time and resources. Notably, we claimed that the data was thick, robust, and depth due to saturation.

Participants were enrolled in citizenship classes during the even semester 2020-2021 academic year. Data findings imported to Nvivo 12 Plus continued analyzing data based on Corbin & Strauss (2015) guidance, including open, axial, and selective coding. Methodologists stated that validating data in qualitative should be conducted with several strategies (Creswell, 2012; McGinn, 2010). Accordingly, we employed triangulation and member checking to claim the research findings were credible and authentic. All respondents were informed relate to the research before conducting the study. Their identity was written anonymously to guarantee the confidentiality of their personal data (Example: P1FM = [Number of participants] [FM = Female, ML = Male]).

Result and Discussion

Mapping the Understanding of Digital Citizenship by Ribble Work

Student teachers' knowledge obtained while being a technology user has been constructed the understanding of digital citizenship. They saw digital problems that threaten technology users, such as cyberbullying, theft of personal data, virus attacks, and addiction, had a psychological impact on their understandings of DC. Digital citizenship was considered more exhaustive than practical technology use because it involved values and morals, such as ethics, character, and moral order deemed necessary to society. They also assumed that ethical abuse resulted in social sanctions and criminal threats due to violations, such as cyberbullying and hacking.

Student teachers expressed several definitions of digital citizenship. Using Ribble's (2015) framework, several terms had the same view. First, they noticed digital citizenship as a concept of literacy using technology. It offered practical skills, such as operating a personal computer (PC), installing software, protecting personal data from virus attacks, and making digital media and insight into the development of technology products. In Ribble Work, digital literacy was not linear to the number of technological tools used in schools. Student teachers propose that most teachers and students have fewer understandings to use and integrate technology in learning activities. Therefore, some of them suggest increasing digital citizenship literacy.

P8ML, a male student teacher, expressed his understanding of digital citizenship:

"*I think digital citizenship is an effort to increase literacy with the ability to manage human behavior related to security, ethics, and norms in using technology*." (P8ML, a male student teacher)

For P8ML, digital citizenship was an effort to increase literacy in the use of technology. He claimed that technological literacy related to users' attention to security, ethics, and norms. Being a technology user requires paying attention to the user's relationship and the technology itself. It was built with minimal risk, especially problems that arise due to the misuse of technology. It was interesting to note Ribble's words on digital citizenship, 'norms of appropriate, responsible behavior regarding technology.'

Another student teacher agreed with P8ML that digital citizenship has a primary focus on literacy using technology:

"*I see digital citizenship as an initiative program to increase literacy related to cybersecurity and ethics both cyberspace and the public sphere*." (P7ML, a male student teacher)

For P7ML, digital literacy aimed to provide users with the ability to protect their data. The digital world was a place to meet and interact without boundaries of region and time. Various purposes could be fulfilled, ranging from seeking information, finding entertainment, doing business, adding networks, including many illegal activities that could harm others. Being a technology user, especially those connected to the internet, required awareness and vigilance against cybercrime attacks, including data theft, hacking, viruses, and firewalls.

The other digital citizenship understanding among student teachers was a standard behavior in the digital world. Ribble (2015) stated that the concept of digital citizenship would help students and people to understand topics and issues with the rise of technology and provide a foundation to act appropriately. All technology users, including students, teachers, and parents, were surprised by technological advances but were not accompanied by the readiness to use technology properly. Ribble's idea of 'to act appropriately' led to understanding and awareness of technology users to increase intelligence when navigating the digital world. Additionally, technology users needed literacy about acting and behaving in an online environment appropriately. One student teacher revealed:

"*Digital citizenship is a norm or standard of behavior to be responsible for using technology so that it makes citizens who are wise and intelligent in using good technology*" (P6ML, a male student teacher)

P6ML spoke about standards of behavior related to status and roles as citizens. He believed that the concept of digital citizenship could be considered as a benchmark of actions and conduct in the digital world. P6ML's statement underscored that digital citizenship could not be separated from the context of contemporary citizenship discourse as the idea of human well-being. In other words, it related to becoming a person who was willing to contribute to their community. When most people rely on interacting digitally, a set of rights and responsibilities was attached to their membership in online and global environments. Two characteristics that appeared from P6ML's expression was digital citizens should be 'intelligent and wise' users. In previous kinds of literature, the concept of being smart and wise in the realm of citizenship presented the ability of a citizen to participate in democratic life (Winataputra & Budimansyah, 2012). Choi, Glassman, and Cristol (2017) explained that digital citizenship's contribution must promote democratic citizenship in the internet age. Accordingly, digital citizenship ultimately supported the main idea of citizenship to create a democratic climate and culture driven by increasing the competence of their civil society. The concept of 'wise' should be understood that various misuse and abuse of technology were contemporary problems requiring educators to respond appropriately (Alqahtani, 2017). That should not be compared with unpopular and ineffective in addressing issues in digital use in schools, such as restricting internet access and giving sanctions. Ribble Work emphasized that teachers need to be

given training, and schools have regulations such as Bring Your Own Device (BYOD) and Acceptable Use Policies (AUP).

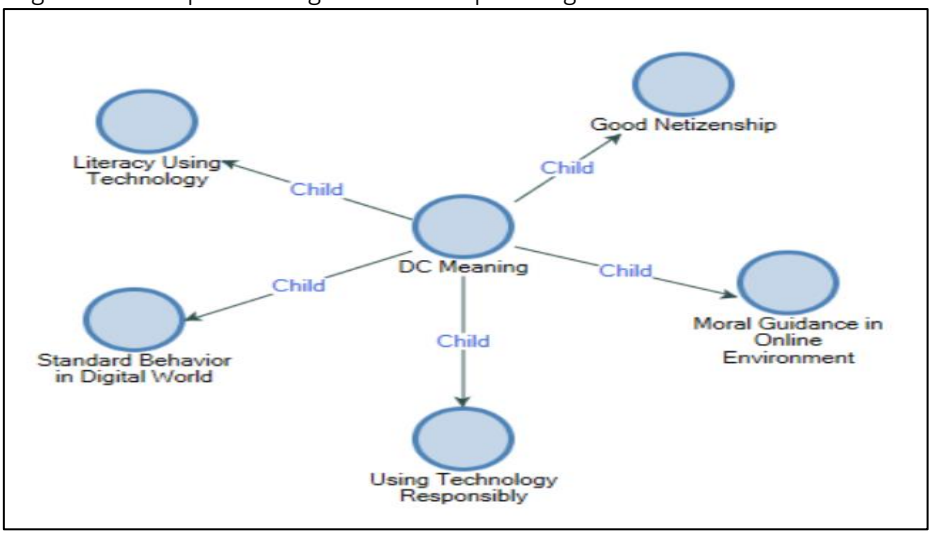
For P18FM, digital citizenship accommodated the educational patterns needed for all users:

"*Norms of appropriately and responsibly in the use of technology. Digital citizenship is a concept that was created to be used in educating digital citizens about the good and right ways to use internet-based technology*." (P18FM, a female student teacher)

Some student teachers said education plays an essential role in internalizing technology users' knowledge, values, and behaviors. The task of education was undoubtedly borne by educational institutions, especially teachers and parents. Students in school got material about computers and the internet at school through the ICT subject. Generally, they got information about technology and internet developments, skills in using office software such as Microsoft Word, Microsoft Excel, Microsoft PowerPoint, an insight of software, and internet developments. The materials taught are limited to additional skills to fulfill student homework, such as making papers and presentations. Students might learn various other skills self-taught by utilizing multiple sources of information from the internet yet with restrictions on websites that contain pornographic content, fake news, hate speech, and terrorism.

Nevertheless, there was a scarcity of curricular programs that provide a portion for understanding digital citizenship. It was believed that many schools did not have policies to prepare their students to use technology legally, safely, and responsibly. Ribble (2012) noted that most teachers are not adequately prepared and less trained to promote digital citizenship. It might lead them to unpreparedness to attempt digital citizenship and hesitant to teach how to be a responsible user at home and school. Teachers were moral role models for their students to give good deeds. Accordingly, student teachers were expected to have digital citizenship as a standard of conduct that advocated appropriate behaviors in using technology, including independently assessing the consequences of their actions.

Figure 1. Perception of digital citizenship among student teachers



In addition, the ability to maintain the use of technology under the social norms was an indicator that student teachers implement the meaning of digital citizenship. P3FM, a female student teacher, comments,

"*The ability to manage and regulate our behavior in using technology which includes security, ethics, norms and culture*." (P3FM, female student teachers)

For P3FM, digital citizenship was not a value-free concept. The digital environment might bring many people with different demographic backgrounds such as ethnicity, culture, and social identity. However, it was easy to formulate acceptable values as accepted moral rules. For example, a digital citizen would undoubtedly agree that acts of digital crime such as hacking and cyberbullying deserve

to be rejected and sanctioned as criminals. Likewise, we saw that social movements that initiate philanthropic programs, prevent the adverse effects of climate change, and voice anti-racism campaigns simultaneously expanded and became a global agenda in the digital world. In P3FM's view, the online realm was a social activity where our interactions were limited by values, both what we did and couldn't. Based on Collier (2009), the digital world gave us choices to decide what we would see, choose, say and share. These choices included ethical values and technology users' digital viewpoints, attitudes, and behaviors. It could be interpreted that digital citizenship obtains problems in technology use and is also recognized as a social and ethical issue.

Furthermore, student teachers gave their views on the definition of digital citizenship as a concept of how to use technology responsibly. Student teachers used the 'responsible' word to describe a good digital citizen. They perceived that being a technology user means understanding that users have rights and are ready to accept risks and consequences. From several student teachers involved during interviews and observations, we found a common opinion that digital citizenship leads to the formation of responsible users. One of them, P11FM said,

> "*Digital citizenship is responsible and honest behavior in the use of digital technology so that there is no abuse of technology in interacting with others in cyberspace*." (P11FM, a female student teacher)

Most student teachers claimed that using technology is based on social values from the offline community. It implied that the student teachers assumed that even though the activities were carried out online, the impact of the actions taken would receive an assessment and consequences both online and offline. In Indonesian society, the phenomena in social media were similar to the offline environment. In the Eastern community, people did not hesitate to correct and blame others who did unacceptable public morality with inappropriate comments. Besides, P11FM revealed the meaning of digital citizenship as,

> "*It can show the quality of behaviors in interacting in cyberspace, especially in social media by showing responsible behavior by applicable ethics and norms*." (P13FM, a female student teacher)

Based on P13FM and P11FM, to be a good digital citizen was to demonstrate behaviors about ethics and norms. The user's cultural environment cultivated ethics and standards. In his framework, Ribble did not explicitly explain the nine elements of digital citizenship related to the relationship between users' social-cultural values as 'norms of appropriate.' However, Ribble clearly showed that the REP achieved digital citizenship. Student teachers used technology in learning activities such as doing homework, communicating with lecturers, participating in online learning via online meetings. They navigate social media, which requires them to develop understanding and skills to access reliable and trusted information, establish identity and digital footprints, and acknowledge district rules regarding the responsible use of technology.

Moreover, student teachers conceptualized digital citizenship in terms of digital literacy and navigating digital devices. Following Ribble's nine elements, digital citizenship was the concept of mastering technological literacy that describes the appropriate use of technology. The ability acknowledged an understanding and practiced safe and ethical surfing in the digital world. Digital citizenship was considered a set of behaviors that can be a moral standard to apply. With the status and role of citizenship, digital citizens had responsibilities to use their rights and obligations to contribute to the community online and offline. Digital citizenship was not value-free, but it led student teachers to believe that being involved in the digital community must be prepared with the consequences and ensure that attitudes were under rules and policies. They had to see and be aware that using technology or interaction with other people in the online environment needed to pay attention to the values, norms, and social ethics.

Based on Figure 1, digital citizenship led to adopting norms and behaviors in a digital community that required rules like the physical environment. It meant that, as part of society, student teachers' existence be identified with their ownership of a set of citizenship identities as an accommodation for social change and cultural development. In Isin and Nyers's words (2014), the interpretation of citizenship status was no longer limited by their status or community groups. Their status should be considered how they used the opportunity to negotiate their rights and obligations. The massive penetration of technology changed the landscape of citizenship to accommodate the digital society where all netizens had access to their rights.

Goals

Student teachers had multi perspectives about the goals of digital citizenship. Some of the themes that emerged as like Ribble's work. In-depth analysis from interview questions on “goal of digital citizenship” raised four sub-themes: developing responsible users, being wise users, being good teachers, and sharpening ICT skills. The first sub-theme discussed regarding the purpose of digital citizenship was 'develop responsible users.’ The student-teachers claimed that digital citizenship provided opportunities to understand the issues and consequences of their actions using digital tools. P11FM explained her view regarding this.

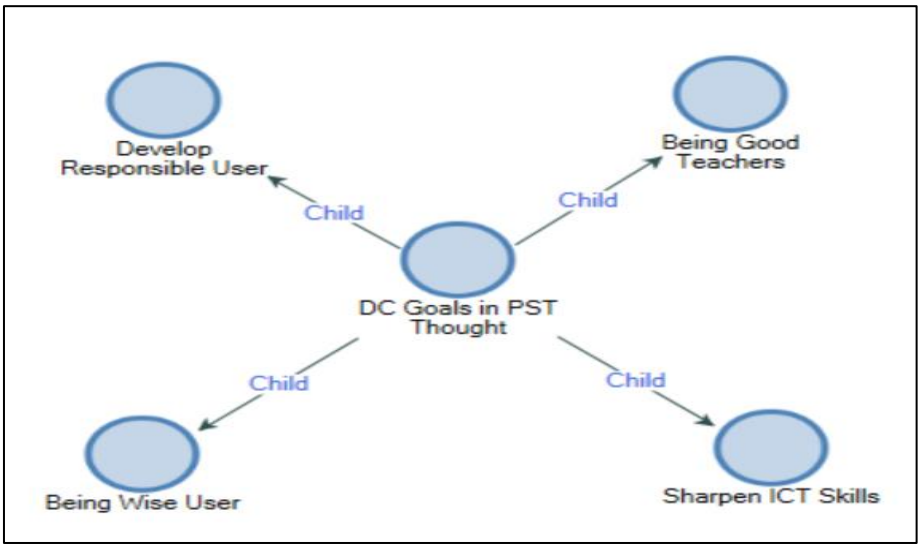
"*In my perspective, digital citizenship is responsible and honest behavior in the use of digital technology so that there is no abuse of technology when interacting with others in cyberspace.*" (P11FM, a female student teacher)

She claimed that being a responsible digital citizen could be proven by avoiding technology abuse. Several other student teachers stated that the most common behavior seen was social media. That is the extent to which a person avoids not uploading photos and videos, giving rude comments, or hurting others. In addition, the purpose of digital citizenship was to build an ethical digital citizen as an Eastern society with speech culture and social norms. When interacting face-to-face, the values and standards guided by one's attitude must be applied when connected through technology.

"*Digital literacy should be able to encourage someone (digital citizen) to be wiser and pay attention to cultural, cognitive, constructive, communicative, self-confident, creative, critical and socially responsible elements*." (P14FM, a female student teacher)

For P14FM, digital citizenship did not just contain technological developments and ICT practice knowledge. However, it also included literacy on behavioral values that must be adhered to, which originated from cultures and was given to increase the competence of digital citizens. That would be seen when digital citizens demonstrated their skills in communicating effectively, building self-confidence, being creative, and criticism. She looked at the purpose of digital citizenship as a social responsibility that was crucial to personal life. She added that the impact of the error could influence other people and the online community at large.

Figure 2. Digital Citizenship Goals



Based on Figure 2, the second sub-theme that appeared was 'being a wise user.' Student teachers joined in on learning to understand and create projects related to digital citizenship issues. Even though they got one point according to the categories in core elements and role-specific elements, they explored the goals of digital citizenship. For some of them, digital citizenship promoted technology by being a wise user. The meaning of wisdom in their word was related to the ability to carry out a critical analytical mindset to ensure the reliability of the information obtained. Some student teachers commented.

> "*I want people to know and be wise in applying and using social media. I know that many people are carried away by fake news. I want them to be wise in sorting the news they get before spreading it. Not only fake news but in a larger scope in social media*." (P4FM, a female student teacher)
>
> "*Digital citizenship can instill character for citizens to become smart and wise digital citizens in utilizing technology, especially in advances in the field of information technology (IT)*." (P11FM, a female student teacher)

They believed digital citizenship had a prominent role in fulfilling the students' needs to be skilled in using their digital devices. Also, it provided an understanding of how to use technology wisely. Digital citizenship might help teachers and parents to recognize the readiness of their students and children to use digital tools. When students have a complete and in-depth understanding of digital citizenship, they are wise users. P8ML expressed his views on the goal of digital citizenship to create discerning users.

> "*Digital citizenship needs to be given to students. Students can wisely use social media. The first step to improving digital citizenship in students is director explain how to address a problem that exists on social media or use technology wisely*." (P8ML, a male student teacher)

The third theme that emerged about the purpose of digital citizenship related to their status as prospective teachers. In their minds, the concept of digital citizenship became an essential discussion in education. They claimed that digital citizenship was a competency that must be mastered by novice teachers, especially with the increasing demand for schools to design character education programs that discuss the topic of using technology for students. Student teachers must initiate a shared awareness that technology provides benefits and pitfalls. Students might be helped to access abundant sources of information through the internet. However, they should be aware of the risk of personal data loss, bullying, or sharing information with others that they did not know. One student teacher explained his opinion about the purpose of digital citizenship related to the role of the teacher.

> "*The importance of DC (Digital citizenship) for student teachers is that it can improve the quality of learning for students, especially we as prospective teachers must be able to master and equip students with skills*." (P9FM, a female student teacher)

For P9FM, a teacher became the 'front liner' to use and assess the results of using technology appropriately. Teachers had to show what they taught they had mastered first. According to Ribble (2015), students would do what was right if they knew the right thing. Unfortunately, Ribble and scholars believed that teachers were unprepared to provide assistance and provide examples of using technology wisely and responsibly (Ribble, Bailey, and Ross, 2004; Gazi, 2016; Hollandsworth, Donovan and Welch, 2017). Teachers were challenged to answer how to educate students to use technology appropriately, protect them and potential issues, and teach them the values needed to effectively ensure their contribution to society. A student-teacher expressed his opinion on digital citizenship for teacher development.

> "*For teachers, they as a role model for their students are expected to be able to set good behaviors for their students. So, their students believe that their teachers give a positive vibe about DC*." (P2FM, a female student teacher)

P2FM suggested that the teacher was the role model of behavior. Teachers were responsible for establishing a balanced relationship between the brain and heart, which plays an essential role in shaping chemistry with students. Teachers had a role in committing to developing self-confidence, achievement, and vision in students to become lifelong learners (Day, 2001). Accordingly, teachers should be aware of their readiness to enter the digital world. As digital citizens, they were expected to help their students with digital ethics and values. Thus, teacher education institutions were obliged to promote digital citizenship within the teacher development program. They were a model for digital citizenship action within the internet or social media, and every teacher was a person who connects to the technology itself (Ribble et al., 2004).

Through interviews and observation, we found that student teachers were struggling with the discourse on being a good digital citizen. They stated that their rights and obligations would be presented by understanding and doing ethical things online. We were challenged to find student teachers who had the experience or interest in raising and exploring digital issues. Although several statements depicted that the misuse of technology had a chain reaction in society, their contribution was limited to protecting themselves and avoiding risks. They know social problems such as poverty, corruption, piracy, deforestation, crime, and digital theft. However, student teachers did not use social media as a mass power to carry out advocacy and actions in demanding social change.

The emerging themes, including developing responsible users, being wise users, and being good teachers, represented the student teachers' perspectives that digital citizenship was an idea applied in the personal realm. Digital citizen was responsible for using technology appropriately to ensure that obligations have been fulfilled and rights have been recognized. Mossberger, Tolbert, and McNeal (2007) criticized these claims. Beyond technical and moral standards in navigation digital aids, they argued that digital citizenship should be led to citizen engagement in economic and political activities. Digital citizenship could be separated from the idea of 'citizen' and 'citizenship' that is closed to status or membership, rights, belonging, and participation. By reinforcing citizenship in the online environment, it would reinforce capacity, democratization, agency, and other potentials to fulfill civic duty and participate in online society. With awareness of the role of citizenship, broad participation is addressed, and student teachers are necessary to learn how people became problem solvers and participated in online platforms, communities, and networks. Choi (2016) suggested that optimizing the role of citizens in online communities required skills, motivation, and self-confidence to participate and had critical resistance toward the existing political structures. Scholars pointed out that digital citizenship growing and flourishing predominantly involves engagement in politics, everyone joins the grassroots networks that advocate for the common interests with peers. The distinction from local and political groups, initiatives are driven by members of social movements with ideas that may be non-territorial and universalist such as climate change, poverty, and terrorism (Kahne et al., 2012; Myers, 2021).

In summary, student teachers conceptualized digital citizenship as a balanced combination of pursuing rights and taking on digital responsibilities. They believed that the digital world gives them the freedom to use digital tools to access resources broadly and build virtual networking. They also emphasized that all online and offline activities should be regulated to build a stable society by incorporating fairness and equal rights among digital citizens to gain opportunities and maintain ethical principles. In other words, while responsiveness in communities leads to responsibilities for the distribution of the shared good life, social justice was promoted. For instance, the iCitizen Project aimed to foster digital citizenship by integrating with social media (Curran, 2012). As a result, the program has increased the students' belief in social justice, empathic behavior, and responsibility both online and offline. By engaging in political action, youth are expected to fight for the values of equality and social justice by promoting moral values and principled — critics of the social divide, even with rules and agreements considered to represent the justice itself (Banks, 2008). This reminds

us that notion of citizenship is not placed in the echo chamber, but it builds and develops from a political perspective. All users have to know what and how to utilize technology to maintain values and principles in society, such as justice, freedom of speech, respect, and human rights. Finally, the concept of digital citizenship could be considered as an effort to build citizen participation to create social justice.

Conclusion

Technology has had a significant influence on human beings. They are good citizens in the physical and online world, advocating and implementing safe, legal, and responsible information and technology. Using Ribble's framework, student teachers represent an excellent attitude and build collaboration, learning, and productivity-based activities. Whether they are connected to technology, they continue to demonstrate performance to improve their responsibility for lifelong learning. The study contributes to providing insight regarding appropriate behavior in technology use. Further studies may need to be conducted regarding teacher preparation in managing the integration of digital citizenship into the teacher education curriculum.

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