Analysis of Factors Affecting Digital Citizenship (Case Study at SMA N 3 Sukoharjo)

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Abstract

Microsoft's 2020 research on the level of digital politeness when interacting online placed Indonesia 29th out of 32 countries. The concept that helps to understand the norms of appropriate and responsible behavior in relation to the use of technology in the perspective of citizenship science by Al-Zahrani is called digital citizenship. This study aims to analyze the factors that influence digital citizenship. The research method used in this research is descriptive quantitative. The population of this study was students of SMA Negeri 3 Sukoharjo, the sample used in this study was 32 students. The sampling technique used in this study was random sampling. The data collection method in this study uses a questionnaire questionnaire in the form of a survey distributed via google forms with a modification of the instrument developed by Al-Zahrani which sees digital citizenship based on three main elements, namely 1) Respect, which includes etiquette, access, and law. 2) Educate, which includes communication, literacy, and commerce. 3) Protect, which includes rights and responsibility, safety health and welfare. The results and conclusions in this study show that students' attitudes when using technology (internet attitude); individual assessments of their ability to carry out behavior and conditioned to complete certain tasks in the field of technology (computer self-efficacy), and skills and fluency in using technology (computer expertise) have an influential relationship to digital citizenship.

Keyword : Digital Citizenship, Civic Education.

Introduction

The development of information and communication technology in the 21st-century global era has changed the world rapidly. These changes give rise to various problems that are not only experienced by one country, but also become cross-country problems. These transnational problems include poverty, human rights, population growth, refugees, the environment, health, energy resources, the global economy and global security (X. Diaz et al., 1999). John Cogan (Syaifullah et al, 2019) argues that this transnational problem is closely related to Citizenship Education, especially privacy issues or individual rights. Challenges in respecting and protecting privacy or individual rights include freedom of expression, demands for information disclosure, national and international security policies and advances in information and communication technology and data protection (Index, 2021). Referring to the results of Microsoft research (2020) regarding the level of digital politeness when interacting in cyberspace, Indonesia ranks 29th out of 32 countries as well as the lowest in Southeast Asia. The Indonesia Digital Literacy Index Survey 2022 uses 4 (four) measurement pillars, namely Digital Skill, Digital Ethics, Digital Safety and Digital Culture. The Digital Skill pillar shows a score of 3.82 but the majority have not been able to check the truth of information and compare information obtained from various sources. The Digital Ethics pillar shows a score of 3.76 but the majority are still uploading content without permission. The Digital Safety pillar shows a score of 3.10 but the majority have not been able to recognize computer viruses and distinguish emails containing spam/viruses. The Digital Culture pillar shows a score of 3.90 where the majority do not choose friends on social media considering ethnicity, religion, social status and also political views (Kominfo, 2022). The important thing that every citizen must have in relation to these issues is an awareness of the importance of having the knowledge, attitudes and skills to criticize and address these issues. Digital

Citizenship is a concept that helps to understand the norms of appropriate and responsible behavior in relation to the use of technology (Al Zahrani, 2015). Digital citizenship has three basic elements including 1) Respect, which includes etiquette, access, and law. 2) Educate, which includes communication, literacy, and commerce. 3) Protect, which includes rights and responsibility, safety health and welfare. The concept is in accordance with the objectives of Civic Education, namely to form good and smart citizens (Wahab & Sapriya, 2011) which in the development of the 21st century must be able to form digital citizens who have characteristics such as understanding humanitarian, cultural and social issues related to technology and practicing legal and ethical behavior; advocating and practicing safe, legal and responsible use of technology and information; showing a positive attitude towards the use of technology that supports collaboration, learning, productivity and leadership for digital citizenship.

The purpose of this study is to identify the level of digital citizenship of learners and the factors that influence digital citizenship so that it can be used as a basis for strengthening digital citizenship in supporting 21st-century learning and providing new alternatives for improving Civic Education education and teaching.

Literature Review

Digital Citizenship

Digital citizenship refers to norms of appropriate and responsible behavior related to the use of technology (Ribble and Bailey, 2007). Miles (2001) defines digital citizenship as a logical approach to interacting online. Farmer (2011) defines digital citizenship as the ability to use technology safely, responsibly, critically and productively. The purpose of digital citizenship is to help young people to make wise and logical choices in a variety of digital settings and situations (Farmer, 2011; Hollandsworth, Dowdy, & Donovan, 2011; Kassam, 2013; Roh, 2004; Miles, 2011; Ribble, 2014).

According to Ribble (2014) digital citizenship has three main themes: 1) Respect, which includes etiquette (electronic standards of behavior and procedures); access (electronic participation in society); law (electronic responsibility for actions and deeds). 2) Educate, which includes communication (electronic exchange of information), literacy (teaching and learning about technology and technology utilization), and commerce (buying and selling electronic goods). 3) Protect, which includes rights and responsibility (freedom that is given to everyone in the digital world), safety and health (physical and psychological well-being in the world of digital technology) and welfare (electronic precautions to ensure safety).

Factors Affecting Digital Citizenship

Factors that influence digital citizenship include (Al Zahrani, 2015) 1) Internet Attitude is defined as the attitude of individuals when using information technology. 2) Computer Self-efficacy is defined as an individual's assessment of his ability to carry out certain and conditioned behaviors to complete certain tasks (Bandura, 1997). 3) Computer Expertise is defined as skill and fluency in the use of technology (Vannatta, 2007).

Civic Education

One of the important tasks of 21st century educators is to provide instruction on cyber safety, preventing and addressing technology misuse (Farmer, 2011; Oxley, 2011; Van Fossen & Berson, 2008). Oxley (2011) points out the importance of educating young people about the risks associated with inappropriate or unethical use of technology, especially the Internet. To do so, it is important to have specially designed educational activities that focus on providing the necessary skills and relevant information about the risks associated with digital technologies (Van Fossen & Berson, 2008; Zwart et al., 2011). Through education, new skills that meet the demands of the 21st century should replace basic skills and knowledge of the past (Binkley et al, 2012; Chee, Mehrotra, & Liu, 2013); This concept is in accordance with the purpose of Civic Education, namely to form good and smart citizenship (Wahab & Sapriya, 2011) which in the development of the 21st century must be

able to form digital citizens who have characteristics such as understanding humanitarian, cultural and social issues related to technology and practicing legal and ethical behavior; advocating and practicing safe, legal and responsible use of technology and information; showing a positive attitude towards the use of technology that supports collaboration, learning, productivity and leadership for digital citizenship.

Method

This research was conducted at SMAN 3 Sukoharjo. The research method used in this research is descriptive quantitative. The population of this study was students of SMAN 3 Sukoharjo. The sample used in this study was 32 students consisting of 24 women and 8 men. The sampling technique used in this study was random sampling. The data collection method in this study used a questionnaire questionnaire in the form of a survey distributed via google forms with a modified instrument developed by Al-Zahrani (2015) see Table 1.

Tabel 1 Questionnaire

Scale	Subscale	*N*
Demogroahic Information	Demographic Information	8
Internet Attitude	Attitude	5
Computer Self-efficacy	Self-efficacy	5
Computer Expertise	Computer expertise	9
Digital Citizenship	Respect	6
	Educate	5
	Protect	4
Total Questionnaire		42

Result and Discussion

Result

Students Internet Attitude and Computer Self Efficiacy

For an overview of learners' attitudes towards internet attitude and computer self-efficacy, see Table 2.

Table 2. Internet Attitude and Computer Self-Efficiacy (N=32)

Scale	*M*	*SD*
Internet Attitude	3.84	1.15
Computer Self-efficacy	3.72	1.16

On average, learners showed a good level of internet attitude (M = 3.84). The data also shows that learners have good computer self-efficacy (M = 3.72).

Students Computer Expertise

Identify learners' technology skills including computer usage experience, daily average computer usage and computer qualifications.

Table 3. Computer Expertise (N=32)

Scale	*M*	*SD*
Computer Expertise	3.89	0.91

On average, learners showed a good level of internet attitude (M = 3.89). The average internet usage of learners per day is 7-9 hours (40.6%); 4-6 hours per day (31.3%); >9 hours (25%) the rest 1-3 hours per day.

Students Digital Citizenship

One of the objectives of this study was to determine the learners' level of digital citizenship as shown in Table 4.

Table 4. Digital Citizenship (N=32)

Scale	*M*	*SD*
Educate	3.58	1.06
Protect	3.80	1.09
Respect	4.07	0.95
Digital Citizenship	3.68	1.07

Based on the data in Table 4, the learners' level of digital citizenship (M = 3.68) shows a good level. However, the digital citizenship practice with the highest average is the practice of respecting oneself and others (M = 4.07) followed by protecting oneself and others (M = 3.80)

and finally educating oneself and others (M = 3.58).

Students Internet Attitude and Self-Efficacy Impact Digital Citizenship

Using Person's product-moment correlation coefficient, the relationship between internet attitude and self-efficacy to digital citizenship is shown in Table 5.

Table 5. Person's correlations for student attitudes, self-efficacy and digital citizenship (N=32)

Scale	Respect	Educate	Protect
Attitude	0.53	0.84	0.21
Self-efficacy	0.73	0.61	0.18

The data shows that the higher the learners' internet attitude, the higher the attitude of respecting oneself and others (0.53); and also the higher the learners' internet attitude correlates with the practice of educating oneself and others (0.84) so it can be concluded that internet attitude is positively correlated with digital citizenship. However, a low correlation was found between internet skills in the practice of protecting oneself and others online.

Similarly, the higher the level of internet self-efficacy of learners, the higher the attitude of respecting oneself and others (0.73); and also the higher the internet self-efficacy of learners, the higher the practice of educating oneself and others (0.61) so that it can be concluded that internet self-efficacy is positively correlated with digital citizenship. However, a low correlation was found between internet self efficacy in the practice of protecting oneself and others online.

Perason's correlation coefficient shows that there is no relationship between internet skills and internet self-efficacy to the practice of protecting oneself and others online.

Students Computer Expertize Impact Digital Citizenship

A one-way between-group multivariate analysis of variance (ANOVA) was conducted to investigate the impact of learners' expertise including computer use experience, average daily computer use and computer qualifications on digital citizenship, which is shown in Table 6.

Table 6. Impact of computer expertise on students digital citizenship (ANOVA) (N=32)

Scale	*F*	*Fcrit*
Computer Expertise	7.32	1.97

The data showed a significant impact of skills and fluency in technology use on digital citizenship F (1.97) = 7.32.

Dissusion

On average, learners have experience using the internet 7-9 hours per day which shows a rapid increase in the use of technology as a global force. The results of this study show that learners have good internet skills, internet self-efficacy and computer expertise. Learners view the internet as a useful tool to actively participate in the 21st century and integrate technology into their daily lives including learning activities. This result is supported by the findings that show a positive correlation between internet skill, internet self-efficacy and computer expertise with digital citizenship.

The results showed a good level of learners' digital citizenship mainly in subthemes 1) Respect, which includes etiquette, access, and law and 2) Educate, which includes communication, literacy, and commerce. This shows that respect is a major issue for learners in the digital world. Roh (2004) in Al Zahrani (2014) suggests the importance of respect in a digital society and is a necessity for global learners in the 21st century in both digital and non-digital environments.

Another interesting result was that learners with higher levels of computer experience were found to be more engaged in activities related to educating themselves and others online than students with lower computer experience. This suggests computer experience plays a catalytic role in seeking and exchanging information with others online.

The results also found that learners' higher attitudes towards the internet were

associated with higher levels of respect for self and others and in digital citizenship.

This result is consistent with Shelly's (2004) and Al Zahrani's (2015) research which found a direct relationship between internet skills, internet self-efficacy and computer expertise with digital citizenship.

Conclusion

This study aims to determine the level of digital citizenship and the factors that influence digital citizenship with a quantitative approach using a questionnaire questionnaire in the form of a survey distributed through google forms with a modified instrument developed by Al-Zahrani (2015). The sample in this study amounted to 32 students at SMAN 3 Sukoharjo. The findings show that students have good internet skills, internet self-efficacy and computer expertise and show a good level of digital citizenship, especially in terms of respecting themselves and others online. Technology use expertise and average use of technology use are positively correlated with digital citizenship. And learners' attitudes and self-efficacy towards the internet have a positive impact on digital citizenship.

The results of the study have relevant implications in the practice of Citizenship Education including 1) Appropriate policies in digital practices that not only explain the effective use of technology but also illustrate the norms and principles of digital citizenship. 2) The need to strengthen digital citizenship through strengthening curriculum that instills technology-based practices and facilitates the proper utilization of technology as an effective learning tool including three sub-elements of internet skills, internet self-efficacy and computer expertise.

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