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Research Article

Digital Citizenship Abilities in Dealing with Digital Education Transformation

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ABSTRACT

This research aimed to measure the digital ability and the resilience of adolescents in maintaining personal safety in digital use. Digital capabilities include converting and transferring files stored on computers or other digital devices. Digital safety is the ability of adolescents to protect themselves and others from harm in the use of digital tools. It includes understanding their rights, personal data, privacy and reputation, promoting and protecting, health and well-being. Data survey followed by 250 adolescents among 12-19 years old of Kediri, Nganjuk, Mojokerto, Jombang and Malang. The results revealed that the digital ability was 60.5% or 152 of adolescents were able to transfer photo, music and video files stored on computers or other devices. Meanwhile, the lowest ability was 6,3% or 17 adolescents showed that they could not set up a secure computing environment. As for digital safety and resilience, the data showed that 75% or 188 adolescents understood that they must protect the privacy and security of others, and they had to respect other people on the internet. However, the amount of 3.6 % or 9 adolescents stated that they tried to threaten other people's personal information when using digital information. In conclusion, the digital ability of adolescents in East Java is still in the medium category while for digital safety and resilience it is in the high category. This is a step for us as educators to further improve the digital abilities of them so that they are ready to face education transformation.

Keywords— Adolescents, Digital Abilities, Digital Resilience

I. INTRODUCTION

Based on the findings of the Digital Literacy Activist Network (Japelidi) during 2019, digital media users in Indonesia are still trapped as consumers of content and information circulating in cyberspace. Nevertheless, the ability to use digital media critically is starting to appear to be forming at various levels of society.[1] Data from Hootsuite and We Are Social (2021) show that internet users in Indonesia reached 274 million users compared to 175 million in the previous year. Furthermore, according to Hootsuite and We Are Social, internet users use tools to access the internet using 98% of Smart Phones, 74% of Laptops and 18% of Tablets. These data show that digital use in Indonesia is experiencing very rapid development, especially in accessing the internet using smartphones.[2] The importance of material on ICT is fully realized by the parties which has the function and task in developing the curriculum in Indonesia. ICT subjects aim to enable students to use ICT tools appropriately and optimally to obtain information in their study, work, and other activities. Thus, students are able to create, innovate, develop their abilities independent exploration, and easy to adapt to new developments.[3] Information and Communication Technology (ICT) subjects were abolished when the government implemented the 2013 curriculum (K-13). The deletion leaves a new problem. One of them, students are not accustomed to thinking creatively so they are not ready to welcome the digital era. Responding to this situation, the Head of the Curriculum and Books Center (Kuskurbuk) Kemdikbud, in 2019, ICT subjects will be re-applied in schools. However, it changed its name to informatics which will be taught at the junior high school level with two hours of lessons per week. As for SMA, options will be included with a portion of up to three hours per week.

The concept of digital literacy will continue to develop along with the increasing use of digital technology;

hence, individuals need to attain appropriate skills for their survival in this digital society.[4] The advancement of ICT will not only have a positive impact but will also have a negative impact. This certainly requires good literacy to overcome it, especially literacy about digitization. These advances have also connected everyone in new ways. As a result, everyone in this world not only has to learn to use new technology but also has to learn how to interact with one another. Safety in using the internet is an important thing for young people today because they spend up to 10 hours a day accessing various forms media.[5] As a children grow older and as their level of digital literacies, they are more exposed to all types of online risks.[6] As we know, safety has become a major issue and relates to a range of online activities including online privacy, cyberbullying, exposure to violent content, exposure to content that foments exclusion and hatred, contact with strangers online, and coarse language. The digitalization of technology in the field of education in the era of the industrial revolution in its journey accelerated the transformation with the Covid 19 pandemic.[7] The pandemic, which is the door to the transformation of education towards digital, forces teenagers to adapt their abilities and activities in the digital world. Teenagers are more active in the digital world, either for the sake of learning or for their own sake. Thus, their digital literacy skills play a very important role in the sustainability of these activities as well as the ability to survive and protect themselves from the risks that exist.

Based on the background of the problem, this research was conducted as a form of initial step in seeing and mapping the level of digital literacy competence of adolescents in East Java. With this research, the researcher hopes that many parties will take advantage of this research to be able to take strategic policies in order to improve students' abilities learning and their resilience.

II. METHODOLOGY AND APPROACH

This research was a quantitative research using descriptive method. The quantitative research used for this study was based on survey to gather data on the digital literacy competence and digital safety resilience among teenagers using study questionnaire. This was conducted online to reach a wider audience and sample.

Competence	Max	Min
Students can edit electronic resources	141	4
Students use social media platforms (e.g., Facebook, Instagram, Snapchat, LINE, We Chat) to share ideas, participate in discussions, and collaborate with others.	125	5
Students can set up a secure computing environment (e.g., remove computer viruses, install security/antivirus programs).	105	17
Students can transfer photo, music, and video files stored on my computer to other digital devices (e.g., phone, tablet PC).	152	2
Students use computer software (eg, Microsoft Word, Microsoft PowerPoint, Google Docs) to complete school assignments.	149	3
Students know how to use the latest digital devices	138	0
Students use digital tools to find the information and applications I need.	150	2
Students use digital devices to study at home	148	3
Students use digital devices for my personal purposes (e.g., gaming, chatting, shopping, searching for information)	134	7
Students ACCESS APPROPRIATE digital information to complete learning assignments at school.	142	5
Students can separate reliable information from unreliable information when searching for digital information	114	5
Students search and find information to complete a study assignment on the Internet.	129	2
Students know I need to report the source of information when using information obtained online	116	7
If Students find wrong information on the Internet, Students can correct it.	106	10

The research targeted a sample of teenagers or adolescent aged 12-19 years old in East Java. The sample of 250 respondents was come from Kediri, Nganjuk, Mojokerto, Jombang and Malang. These questionnaires referred to two variable the digital literacy competence and digital safety resilience. In addition, the questionnaire includes questions about the activities during online school.

III. LITERATURE REVIEW

Den Haag and Payton in Akbar & Anggraeni [8] describe that digital literacy is a personal ability to apply skills to digital devices so that he can find and select information, create creativity and collaborate with others. Another definition explains that digital literacy is the ability to understand and use information from various digital sources presented through the computer.[9] The, in this study potential to follow the digital world that cannot be avoided by them.

IV. RESULT

As mentioned earlier, this research was conducted by distributing questionnaires to 250 teenagers in several cities in East Java. This questionnaire is divided into 2 aspects, namely digital literacy competence and digital safety and resilience. The number of each item consists of 14 items.

A. Digital Literacy Competence

The digital literacy competencies of several teenagers who were respondents, showed the results as shown in the table below.

TABLE I Minimum And Maximum Value Of Digital Literature Competence

Students know which information I should and should not share on the Internet.	172	4
Students find myself using digital devices for longer periods of time than expected.	128	7
Students use digital devices to relieve myself of stress (eg listening to music, watching movies, etc.).	124	7
Students feel anxious if students haven't checked their messages or activated my digital device for a while	94	8
Students can change privacy settings to keep myself safe/away from unwanted contacts (e.g., spam texts, emails).	128	6
Students try to avoid clicking on information that looks odd or suspicious.	164	4
If someone annoys me online, Students I can ask that person to stop sending unwanted annoying messages or emails	123	5

Digital resilience is related to matters related to cyber-safety, security, or bullying. In this study, digital resilience is defined as the ability of adolescents to overcome technology and understanding of protecting themselves and privacy from all the risks that exist in the digital world, especially with online learning as they adapt to changing trends in education due to COVID-19.[10]

Many parties should be involved as facilitators for teenagers to assist teenagers in providing education and insight about safety in activities on the internet to ensure the safety of teenagers in activities in the digital world, especially in online learning activities.[5] With a good understanding of digital resilience, it is hoped that teenagers will be able to protect your personal information online and be able to provide security when interacting with other people in the digital world.[11]

To fill the gap, this study critically mapped the digital literacy skills of teenagers and also their resilience in the face of the digital world, especially during the online learning period. With a description of the data obtained, educators can determine strategies that can be used in learning so that teenagers can adapt and develop the The literacy competence shown by teenagers is above 100 persons in every aspect. Of the total 250 respondents, 60.3% or 152 adolescents demonstrated the ability to transfer photo, music and video files stored on computers or other devices. As for the lowest ability, as many as 6.5% or 17 teenagers are not able to prepare a safe digital environment for activities.

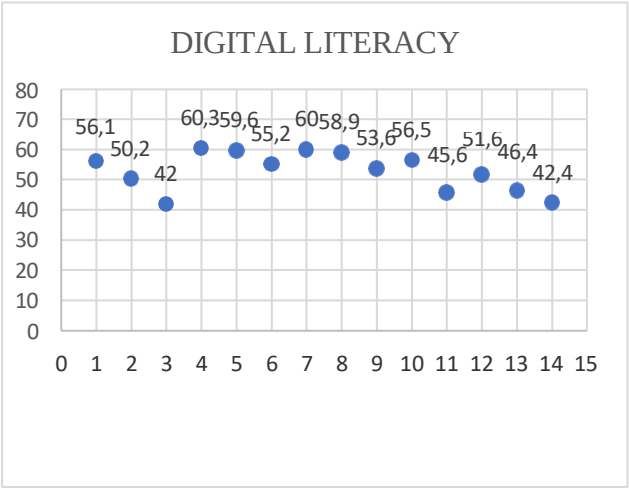

Fig. 1 Describes data collection ff digital literature competence of teenagers in East Java (percentage of each attitude). Out of the 14 patterns of competence described above, it shows that adolescents have digital literacy competence at the medium level. This can be seen from the numbers shown are scores above 50% in each competency

B. Digital safety and resilience

While the digital safety and resilience of several teenagers who were respondents, showed the results as shown in the table below.

TABLE II Minimum And Maximum Value Of Digital Safety And Resilience

Attitude	Max	Min
Students understand that I have to respect other people on the Internet	186	4
Students understand that I must protect the privacy and security of others.	188	3
Since illegally copying software is against the law, Students will not allow myself to make copies of it.	157	6
Students read the privacy policies of the websites I visit while using the Internet.	116	3
Students try not to threaten other people's personal information when using digital information.	161	9
Students try to avoid infringing on the intellectual property rights of others (e.g., software copyrights, portrait rights) when searching for and using digital information.	154	6
Students try to protect my personal information from others online	163	3

The digital safety and resilience competence shown varied scores, many of which are even below 50%. As for digital safety and resilience, the data showed that 75% or 188 adolescents understood that they must protect the privacy and security of others, and they had to respect other people on the internet. The amount of 3.6% or 9 teenagers stated that they tried to threaten other people's personal information when using digital information.

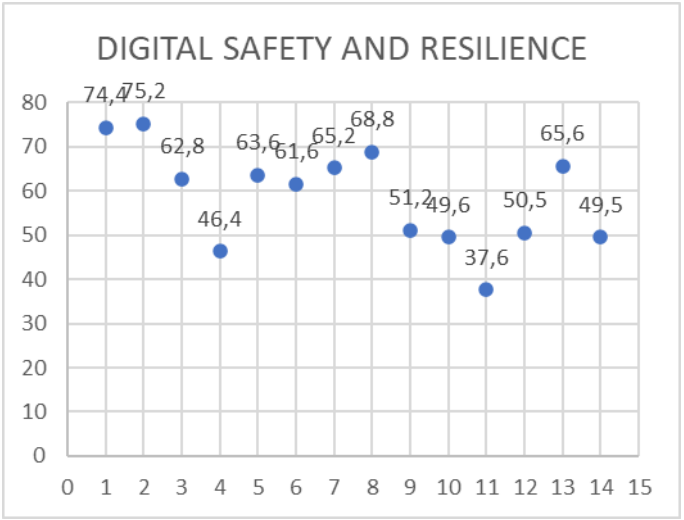

Fig. 2 Describes data collection of digital safety and resilience (percentage of each attitude). Out of the 14 patterns of competence described above, it shows that adolescents' digital safety and resilience is very low. This can be seen from the numbers shown in varied scores, many of which are even below 50%

The results of this study illustrate several important points about digital competence and digital resilience among adolescents. First, the findings regarding the digital competence of adolescents identify that the digital abilities of adolescents are at a medium level. This is based on the scores on the 14 competencies presented showing scores above 50%. The results of the highest ability of adolescents were at 60.3% or 152 of adolescents were able to transfer photos, music and video files stored on computers or other devices. While the lowest ability was 6.5% or 17 adolescents showed that they could not set up a secure computing environment.\

Second, our findings regarding the digital resilience of adolescents in digital activities show that the ability of adolescents to survive and feel secure in digital activities is very low. This is based on the scores on the 14 competencies presented showing varied scores, many of which are even below 50%. As for digital safety and resilience, the data showed that 75% or 188 adolescents understood that they must protect the privacy and security of others, and they had to respect other people on the internet. The amount of 3.6% or 9 teenagers stated that they tried to threaten other people's personal information when using digital information. This is supported by other findings which show that more than half of children (including tough groups such as girls and elementary school children) talk to someone about online problems which implies that activities safely and comfortably on the internet are not maximized but awareness-raising efforts already played a positive role.[6] Finally, our findings suggest that learning about information or digital technology must be further developed to increase the digital literacy competence of teenagers. This is a step for us as educators to further improve the digital abilities of them so that they are ready to face education transformation.

CONCLUSION

Technology is now an integral part of life, and thus, part of the education activities. Our findings illustrate that even though they have been equipped with ICT subjects for teenagers, especially elementary and junior high schools, the digital literacy competence of teenagers is still at a medium level. The ability shown is about how to operate technology as a means to complete school assignments. As for the ability to safely prepare devices (eg from viruses) it is still in the low category. Likewise adolescent's digital resilience competencies, the results of the study show that adolescents already understand how to maintain privacy and ethics in interacting with others in the digital world. however, there are still many teenagers who feel threatened by others when using digital information.

Researchers recommend further research on the development of information technology learning for adolescents, especially elementary and junior high schools because it is known that ICT subjects are only applied as local or extracurricular content. With the development of the world of education towards digitalization, this is an important thing that teenagers must have in order to develop themselves and innovate in the digital world safely and comfortably.

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