

Internet Skills in Using Smartphones for Children with Intellectual Disability at SLB Negeri Wonogiri

Sidiq Setyawan¹, Andhika Wulandari²

^{1,2} *Communication Science Department, Universitas Muhammadiyah Surakarta*

*Corresponding author. Email: ss112@ums.ac.id

ABSTRACT

The development of ICT makes it easier for people to acquire information, show expression, and fulfill other needs. Although information can be accessed easily by anyone, people need digital skills to master digital technology that develops rapidly. Digital skill is a person's ability to determine information needs from digital technology sources. This study aims to reveal how people with Intellectual Disability (ID) at SLB Negeri Wonogiri access ICT and internet skills. Sampling was done by a purposive sampling technique on four informants who met the sample criteria. Data collection techniques were conducted using in-depth interviews and non-participant observations. The results showed that internet skills among students with ID varied depending on several factors, including understanding buttons and operating several applications to support social skills in digital media interactions. The use of digital technology, especially smartphones by informants, can meet communication and information needs. The informants' internet skills could be observed from related medium, such as operational skills and formal skills, while the related content included information skills, communication skills, strategic skills, and content-creation skills.

Keywords: *Information and Communication Technology, Digital Gap, Intellectual Disability, Internet Skill, Information Access.*

1. INTRODUCTION

Digitization has shifted analog technology into digital. These changes brought people to the interactive communication era that changed the way humans communicated and brought it to the information age, where accessing information is a fundamental need for every individual to produce, disseminate, and consume information. Even though technology is constantly evolving, unequal access makes it possible for some people not to use and utilize technology properly. It can make a person gap or experience a gap in information and communication technology.

Information and Communication Technology (ICT) is defined as the tools, facilities, and processes that provide services for transmitting, processing, storing, and disseminating information in various forms, including voice, text, data, graphics, and video [1]. Information becomes a fundamental tool for a person to increase his potential in various life aspects [2]. Access to information is fundamental to an individual's position in society; opening up information will increasingly produce and foster competence in various fields [3].

Not all advances in information and communication technology guarantee equal access to information. In the optimism for the realization of equitable access to technology as a support for more

modern life, there are groups of people who have struggled in using it. It emerges a digital divide or inequality in the use of information and communication technology. The digital divide is explained as a lack of computer and internet access and different levels of digital skills in some people [4].

The problem of the digital divide popularly begins with the difference in access to information services between people who can afford computers and people with low incomes who cannot buy computer equipment [5]. Over time, the problems regarding the digital divide are not only focused on economic issues but have begun to shift to the willingness, ability to use, opportunities to use, to the use of information technology itself [4].

The digital divide for people with disabilities is an essential concern regarding equality in ICT use. The problem of people with disabilities is an example of an obstacle in using communication and information technology [6]. The internet is actually not friendly for people with disabilities [7]. It is due, among other things, to the many variations in accessing information, the lack of supporting tools, and the level of disability [7].

Diffable is part of the human condition that can be experienced temporarily or for life. Those who survive into old age will experience increasing

difficulty in living their daily lives [7]. More than one billion people worldwide, about 15% of the world's population, are disabled, and 80% live in developing countries [7]. Individuals can experience various types of disabilities, such as hearing, speech, vision, psychosocial, and intellectual [7].

In a number of cases, access to information cannot be not well accepted for people with disabilities. Most of them felt hampered by the general lack of materials and were hindered by the unavailability of adequate information access facilities. Through technology, a person gains access to information more practically and quickly. The rights regarding access to information for people with disabilities are also developed by the CRPD (Convention on the Rights of Persons with Disabilities) where international human rights regarding access to information are needed so that people with disabilities can pursue, receive, convey ideas and information and use the information to change them [7]. Access to information is an essential element in freedom of expression and a necessary prerequisite for achieving other rights [8]. performing the role as a person with ID certainly requires strength to act in improving the quality of life.

For people with Intellectual Disability (ID) or often referred to as mentally retarded, where the individual has an IQ lower than the average normal person, mastering technology requires special guidance. In the case at the SLB Negeri Wonogiri (Wonogiri State Special Need School), the use of technology, including computers or smartphones, is more widely used by people who are speech impaired, deaf, and people with autism. For people with ID, the lack of inadequate communication and information technology-based learning facilities and restrictions on the use of smartphones is a factor in the lack of intensive ICT learning. In addition, the slow level of understanding of people with ID requires teaching staff who are experienced in the field of ICT.

Previous research by Chadwick et al. [9] realized how internet access among people with ID. In this study, most people with ID did not access the internet.

Previous research on internet use, internet safety, online risks, and protection for people with ID, such as cyberbullying, has agreed to look at how the role of parents is a crucial factor to warn teenagers about the impact of the internet [10].

Based on the explanation that has been stated above, the researcher intended to discuss smartphone mastery in people with Intellectual Disability or mental retardation. The purpose of this study is to depict how smartphone mastery is for people with intellectual disabilities and to reveal

how to access information obtained by people with ID.

2. LITERATURE REVIEW

2.1 Information Access and Intellectual Disability

Smartphone technology connected to the internet is an influence that has changed many aspects of human life. The rapid development of ICT allows many people to use the internet in undertaking daily activities, including education, business, and banking, seeking information, looking for work, civic engagement, and seeking friendship [9]. Access to technology is no longer considered a luxury but a survival tool that can make life more enjoyable.

ICT is a field of work and study that "includes technologies such as computers and laptops, software, and connections to the Internet that are intended to fulfill information processing and communication functions [11]. Another definition for ICT comes from UNESCO, which states that ICT is a combination of information technology with other related technologies, especially communication technology [11]. Thus, ICT implements the latest technology to process and communicate information. Additionally, ICT also includes technologies that can process various types of information (voice, video, audio, text, and data) and facilitate various forms of communication between people, between people and information systems, and between information systems [12].

In this study, ICT refers to smartphones connected to the internet as a form of technology that can "read" and access all forms of media convergence in one hand. Multi-tasking media (smartphones) have brought about changes in access to information, such as listening to music, watching videos, and accessing social media instantly [13].

Intellectual Disability (ID) or mental retardation is defined as a condition of incomplete development of the mind, which is specifically characterized by impaired skills that manifest during development, which contribute to the overall level of intelligence ranging from cognitive, language, motor, and social [14].

People with ID are those who have intelligence lower than average, where IQ is lower than 70. The level of cognitive impairment in each person with ID is certainly different: profound IQ level <20, severe IQ level 20-34, Moderate IQ level 35-49, Mild IQ level 50-69, while Borderline range from 70-84 [9]. Therefore, performing the role as a person with ID certainly requires strength and support to act in improving the quality of life.

A prominent aspect of online communication by persons with disabilities is the ability of technology to hide personal aspects from them [15]. Characters in virtual communication allow them to dismiss their disability until the time comes when they are ready to express it (Bowker & Tuffin, 2002)[15].

Information technology, especially the use of the internet, also provides a comprehensive source of information for every human being. Van Dijk (2005) pointed out the importance of digital skills as “the capacity to use a computer and network resources as a means for specific goals and general goals, thereby improving one’s position in society” [5].

Most people with ID do not access technology and the internet to the same level as normal people due to the lack of access to technology [9]. Moreover, there are several barriers to the use of ICT for people with ID [9]: (1) Financial and Economic Barriers; groups with limited economies have reduced access to ICT. For ID people with a low economy, the cost is a common barrier in accessing digital technology and the internet. (2) Societal Attitudes and Exclusion; barriers to accessing ICT are not just financial constraints (i.e., insufficient funds to buy digital technology and pay for Internet access). Factors of support, education, and learning are also some of the obstacles for people with ID. (3) Support and Educational and Training Barriers; support and training are crucial for most people with ID to get involved with the internet. Ongoing training and support are usually provided by family caregivers or direct support staff (i.e., foundations or Special Need Schools). Lack of support and training can limit ID persons from using ICT. Furthermore, the lack of skills of caregiver staff is also a vital focus in introducing ICT to people with ID.

2.2 Internet Access for Children with Intellectual Disabilities

In accessing ICT, every individual needs skill in operating the technology. Skills have become a significant part of modern society in the fields of economy, education, and employment. The digital era has brought society into a completely digital, where knowledge and the information revolution are indispensable. ICT can be seen as a means of survival in society [9]. Through ICT, a person gains access to information more practically and quickly. Alberto et al. [16] mentioned that literacy skills in people with ID could provide the ability to obtain information from the surrounding environment to make decisions and have enjoyment.

Burgs-tahler (2002) noted that there is a digital divide between people with disabilities and ordinary people; therefore, digital skills are indispensable for people with ID to participate in today’s digital society. With the teaching of ICT, it can make

people with ID easier to gain better access to smartphones [16]. From elementary school to college, the use of technology is indispensable. Mobile devices such as smartphones and digitally formatted books can now be obtained easily. It allows people with ID to get access to support from anywhere. With the provision of digital skills obtained from school learning or other people, people with ID can communicate with friends or family through social media and gain and retrieve information from the internet [16].

The individual’s skill level in using digital technology is influenced by how the individual masters technology and ownership of digital technology. According to van Dijk, the type of education really determines a person’s level of skill or ability in using digital media technology. Those with higher education will be more proficient in ICT use than those with less education [5]. ICT ownership also affects a person’s skill level in using digital technology [5].

Before physical access, people need to be motivated to support technology access. With motivation, people desire to connect to the internet to meet their information needs. However, there are obstacles such as economic factors, education, and lack of time to access ICT. Many of them experience inequality, so they believe that it is a waste and will take time to learn the technology [5].

Van Dijk elucidated that there are several stages in the use of technology, which are divided into motivation, physical and material access, digital skills, and usage [5]. Researchers focused on digital smartphone skills in the form of internet access by students with ID.

Van Deursen and van Dijk elaborated the range of internet capabilities: a) Operational internet skills are concepts that indicate a set of basic skills in using the internet. b) Formal internet skills include internet hypermedia structures that require navigation and orientation skills[5].

In the content category, there are c) Information internet skills to describe a set of actions that a person takes to meet information needs. d) Strategic internet skill capacity to use the internet in fulfilling certain goals that affect a person’s social position [5].

3. RESEARCH METHODS

In the process of qualitative descriptive research, problem-solving is accomplished through the process of collecting data or information to be compiled, explained, and then analyzed [17]. By using a descriptive approach, it is expected to

explore a deep understanding of a phenomenon, fact, or reality that can only be understood if the researchers explore it in depth. Researchers could view a portrait and describe in a multifaceted way the digital divide for people with Intellectual Disabilities at SLB Negeri Wonogiri, focusing on access to information received. As social beings, people with intellectual disabilities also have the right to obtain and access information. Data collection techniques are methods that researchers can use to collect data [18]. The technique used to collect data was in-depth interview and observation. The data obtained were in the form of an overview in the field in the form of attitudes, actions, conversations, interpersonal interactions, and others.

Informants who became the data source were selected through the purposive sampling method to choose subjects based on the criteria applied according to the research objectives [19]. The criteria included 1) 3 children with Intellectual Disability, 2) attending SLB Negeri Wonogiri, 3) aged between 15-18 years and having a smartphone as a form of ICT.

The data analysis method in this study was data analysis from Miles and Huberman, through data reduction. It means summarizing, selecting the main issues, focusing on the significant issues, and looking for themes and patterns. Researchers focused on the results of interviews associated with the research theme in reducing data. The presentation of the data was done by describing descriptively the quotations and the results of in-depth interviews. Finally, conclusions were drawn based on verification of the presentation of research data to obtain valid data and information. The data were then described descriptively, and a conclusion was drawn.

In testing the validity, this study employed data triangulation, namely the approach taken by researchers to collect and analyze data [17]. Data triangulation means using various data, using more than one theory, several analytical techniques, and involving more researchers. Researchers completed the triangulation process by comparing the data obtained with various theories used by researchers. The theory used by the researcher referred to the resources and appropriation of Van Dijk [20] and utilized the Internet usage typology from Kalmus et al. (2011)[20].

4. RESEARCH RESULT

People with ID also need internet skills to improve their quality of life as social beings. The shift from a print-based society to a digital society requires ID people to prepare internet skills to have

the opportunity to use ICT. Therefore, internet skills are considered a crucial life skill [21]. It certainly affects the level of digital skills of students with ID SLB Negeri Wonogiri. Considering the unavailability of computers at the school, students with ID were less familiar with computer technology. Nevertheless, smartphone technology has replaced the computer to get to know ICT and access information. With the support and direction from family, friends, and teachers regarding smartphone technology, students with ID gradually begin to master internet skills, nearly comparable to ordinary people.

In this study, researchers used the distribution of four internet skill indicators to perceive a description of the use of smartphone technology on research subjects:

4.1. Medium Related

Operational skills refer to how someone operates ICT, especially the internet, and understands the symbols available on the technology. For students with ID at the SLB Negeri Wonogiri, the use of smartphones was no longer taboo. The daily intensity of smartphone use made it easy for students to recognize the technology, but special directions were also needed for them to understand the use of smartphones easily. From interviews conducted by researchers, almost all informants owned and could access smartphones. Regarding smartphone access owned by informants T and B, they stated that they have smartphone technology with internet access in it. Informant T claimed to purchase the internet package himself, and informant B had to ask for help in purchasing the package.

After that, the researchers attempted to explore deeper into the informants' ability to use smartphones, such as knowledge of buttons and logos.

Regarding internet operational capabilities, Informant H said that he could understand the function of airplane mode, activate the internet, and consume social media such as YouTube, WhatsApp, Instagram, and Facebook. Almost the same as informant H, informant A did not only use social media, but Informant A confirmed that he also used interactive games for recreation. He played online games COC (Clash of Clans) and Mobile Legend, both online games with Moba type.

4.1.1. Understanding Logos/ Icons in Smartphones

Knowledge of icons or logos is actually beneficial for people with ID who do not master reading and writing skills. Informant A, who has this deficiency, said that he learned from his friend, repeatedly observing friend A when using a

smartphone, WhatsApp, YouTube, and other social media.

At this point, it showed that the visual understanding of students with ID can work well. Therefore, as pointed out by Alberto et al., image and logo-based learning is an effective strategy to improve the ability of people with ID to interpret information [16].

From the results of observations made by researchers, it was found that the informants were relatively understanding and able to show directly about the use of smartphones, although it was limited to a few smartphone features.

4.1.2. Formal Skill

Formal skills refer to formal abilities for internet access. This ability shows how someone uses technology when connected to the internet and understands the navigations in that technology. Here, the researchers observed how the use of smartphones when connected to the internet on ID students, such as whether they understand search engines, browsing, downloading, navigation, and see the answers of informants A and H who stated that they could use the browsing feature on a smartphone. However, in contrast, informant B, he could not use the browser application at all because of the intensity of smartphone use, which was limited by his parents. He said he was only able to use WhatsApp as a means of daily communication.

Understanding navigation is considered a complicated thing to do. For informants T and H, they quite understood some of the available navigations such as backward and reload, but other navigations such as forward, new tab, URL, and hyperlink were considered quite difficult for the informants to understand.

New media interactivity provides a faster and more powerful feedback system. To make the new media more interactive, hypertext (Html) has been developed. The main feature of using hypertext is hyperlinks that allow users to navigate, enter or exit through any document easily and quickly [23]. The existence of disability-friendly navigation certainly makes it easier for someone to conduct activities on a smartphone. However, the lack of teaching and knowledge of related technologies causes a lack of understanding about navigation.

Regarding the type of information that informants often access, the researchers attempted to view what content was frequently searched for on the browser used. Informant T said that information about the zodiac and cooking recipes were the favorite types of information that were often searched through the google search engine. In addition, he admitted that he could search for the

type of song he liked to download and save on his smartphone.

In addition to browsing capabilities, social media also has several forms of non-verbal signs in it. Informants T, H, and B confirmed that they often used emojis in WhatsApp messages. Emojis can also be used as a substitute for verbal and emotional communication for text-based messages. In contrast to other informants, informant A said that he could not read and write very well. However, when the researchers asked questions about his understanding of smartphones, it was limited to identifying social media features, browsing, and the internet. The supporting ability to capture screen information (screenshot), for example, was not known by informant B when asked about this ability.

From the interview and observation data obtained, the use of navigation on smartphones was quite problematic for informants A, T, B, and H to understand. Many smartphones still lacked features to reduce the level of difficulty and increase access to smartphone use for people with ID [25].

4.2. Content Related

4.2.1. Information Skill

Information skill is a person's ability to use technology to meet their information needs. Access to information is crucial to an individual's position in society; opening up information will increasingly produce and foster competence in various fields [3]. However, not all people with ID can easily receive this information due to different levels of ability to capture information. Understanding reading and writing is an initial provision for people with ID in using technology.

Almost all of the informants claimed to have received information from social media such as WhatsApp, YouTube, and the Google search engine regarding the ability to access information. Informant T said that he often received and exchanged information through the WhatsApp application through the group feature. He often shared information about school assignments news and added friends. The YouTube platform was used by informant T to watch his favorite soap opera, Cinta Suci because he admitted that he rarely watched television at home.

Some informants searched for the information because they had their talents and interests. As stated by informant H, he claimed to use the WA application to learn the art of Reog because there was a motivation to become a Reog dancer after High School (SMA).

In addition to information about talents and interests, informant H also often used Instagram to search for humorous content and view posts from his

friends. From the observation data, Informant A had an Instagram account with more than 300 followers and actively uploaded photos on his Instagram account.

In addition to obtaining information about their interests and hobbies, online friendships found via Instagram and Facebook also added insight for them. Through these friendships, students with ID can exchange information. According to Shannon and Weaver [26], information is a commodity passed from one person to another, making information 'accessible' to ensure that information flows freely, which is expected from the knowledgeable to the less knowledgeable.

From these observations, researchers uncovered that the information that was frequently accessed was a pleasure or interest they had. Smartphone itself is an adaptive technology for people with ID, with smartphone and internet technology ownership, ID people are expected to have various types of skills, including academic, social-communicative, community, and interests and talents [16].

4.2.2 Communication Skill

Communication skill is a person's ability to use technology to communicate, send, contact, create an online identity, attract attention and give opinions. Communication itself is a process by which a person exchanges information with other people or groups. At this point, informants T, B, H, and A mostly utilized social media to communicate with other people. One of the social media that they frequently used was WhatsApp. Not only to communicate, but they can also create groups containing their school friends and some of their teachers. Social media can be a means of interaction, communication, and information among users quickly, precisely, effective, and relatively inexpensive [27].

As a communication tool, WhatsApp has become a social media that is widely used by students with ID. Besides being easy to use, WhatsApp users are also abundant. Informant H, who had a hobby of Reog, often used WhatsApp to communicate with his community. He said that he had become a member of the Singo Dutho Reog group and used WA social media as a medium for exchanging training information through the group. Additionally, he was familiar with the telephone feature through the application.

In addition, informants A, H, and T had Instagram and Facebook accounts that were also used to communicate and make friends. However, they used Instagram more often than Facebook. Social media design factors make Facebook display more complicated to use. Students with ID also are interested in expressing their opinions through their social media accounts. As said by informant T, he

frequently used the loved feature to express his liking for a photo (for example, a photo of the artist Natasha Willona). He also often read comments in a photo but admitted that he rarely participated in commenting on it.

It is different from informants A and H, they said that they never gave comments or opinions on an image post. A more interesting thing appears in the statement of informant B, he said that his father forbade B to have a Facebook account and use his father's account to access information on social media.

The identity of the informants is also essential to show themselves. Through profile photos, the four informants stated that their friends could reveal that the account belonged to informants T, B, H, and A. The researcher again discovered an interesting answer from one of the informants, namely informant T, who said he falsified information related to his school origin and did not admit to studying at SLB but majoring in pharmacy.

Informants also could attract the attention of others through the stories or statuses they created. As said by informant T, he often created WA statuses to express his feelings when he was angry about certain situations. In contrast to informant B, he usually posted funny video statuses and personal photos to WhatsApp stories. Informants B and H said they rarely made a status like other friends.

Based on observational data, the researchers found that the ability to communicate through social media went well. It is also reinforced by the intensity of the interaction of informants with researchers through the WhatsApp application.

4.2.3. Strategic Skill

van Dijk (2014) defined strategic skills as a person's skills in using digital technology to achieve certain goals that can improve one's position in society. In terms of strategic ability in internet access, one must be critical analytical and have decent information skills [5]. At this point, it can be exemplified that strategic internet skills are the ability of digital technology users to utilize and take advantage of the internet, which aims to offer goods or services through digital technology so that the opportunity to earn profits is more significant than being offered offline, for example, online shop.

Based on the observation data obtained by the researchers, the four informants did not apply strategic skills at all. They only recognized the form of applications such as Shopee, Lazada, Bukalapak through advertisements on TV but did not understand the benefits and uses of these applications. As said by informant H regarding the online buying and selling application, he realizes the Shopee online shopping application through

advertisements on television but did not yet have the expertise to use it.

Supposedly, it is crucial for people with ID to acquire daily life skills such as using public transportation, preparing food, maintaining personal hygiene, and doing shopping either in person or online.

4.2.4. Content-creation Skill

Content creation skills can be called creative skills, where someone can be creative and contribute to the internet by utilizing digital technology to produce works that many people can enjoy. The emergence of works on social media provides opportunities for young people to work in cyberspace, for example, creating YouTube content, creating Instagram content with their expertise, or creating a blog containing personal works.

However, in this study, the four informants with ID did not use smartphones to do personal work. They can only read and write, intellectual disability which is a condition of incomplete development of the mind or a low level of intelligence [14], therefore the mindset of people with ID does not come to do works. Even so, they can create works for personal needs, such as editing videos and photos using a photo or video editing applications. It was also conveyed by informant T by showing the video editing application he had, the similar thing was also done by informant A by showing the six photo editing applications he had.

Lack of empowerment regarding creativity makes people with disabilities unable to do personal work. Empowerment is a program with stages to achieve a goal and create activities to strengthen self-defense fortresses [28].

5. DISCUSSION

Intellectual Disability (ID) is a condition of incomplete development of the mind, which is characterized explicitly by impaired skills that manifest during development, contributing to the overall level of intelligence ranging from cognitive, language, motor, and social [14]. In other words, people with ID have IQs below the average normal person. Intellectual disability certainly has difficulty in performing daily activities and being independent in a number of activities [29].

Intellectual disability conditions that may be faced by students who need special education in an educational and academic environment can be minimized through technology education [29].

This research focused on how internet skills through smartphones for students with Intellectual Disability (ID) in meeting information needs, which

were analyzed using digital indicators and internet skills from Van Dijk [22].

Alexander van Deursen [31] pointed out that the most crucial factor in internet skills is the level of educational attainment. The higher the education, the better they perform operational, formal, informational, communication, and strategic, creative skills on the Internet.

Through learning ICT and internet access skills, students with ID can improve their ability to live independently, acquire new skills, and increase opportunities for full participation in society [16]. Internet access has been promoted in educational institutions that deal specifically with disabilities to participate in the current information and communication society. However, potential risks that people with ID are vulnerable to have also been identified, one of which is harassment [9]. It requires the active role of schools as educational institutions where students with ID spend some of their time studying and socializing, being able to present, and assisting students with ID in accessing the internet.

A study conducted by Karen et al. (2009) on 77 adolescents with disabilities related to the component of supervision by parents and caregiver staff indicated 56% of adolescents receiving a form of supervision associated with the risk of providing personal identity on the internet; this percentage is nearly comparable to 48% of data obtained from normal adolescents [10]. The existence of support from the environment where they live and where they study is a form of creating a safe ecosystem for youth with disabilities to get digital security, and on the other hand, it places them with the same rights to the information they need.

Building a healthy media environment on the internet for youth with disabilities is a challenge that must be faced by teachers and parents. The presence of parents tends to be dominant to accompany and control children in consuming irrelevant content, pornographic content, and sharing personal information [10]. Parents with children with disabilities have a more rigorous set of rules for internet use [10]. This aspect can be seen in the application of the rules for meeting friends known from social media, sites that are allowed to be visited, duration of use, and days when they are allowed to access the internet [10].

In research conducted at the SLBN Wonogiri, the teachers only provided writing and reading skills and general knowledge such as Mathematics, Natural Sciences, Bahasa Indonesia, Religion, Social Sciences without being supported by ICT lessons. It is due to the lack of facilities and effectiveness in learning. In the perspective of resource and appropriation theory [20], access to technology and information depends on the characteristics of the particular media being

targeted, in this case, is the internet. The premise that is built is that inequality in the distribution of technology will lead to inequality in access to digital technology, which results in a lack of understanding of the character of related media [20]. However, to reduce the gap in internet access capabilities and the lack of technology mastery among people with ID, the use of smartphones during the learning process is allowed for students.

Smartphone design that is easy to operate is one of the reasons for teachers so that students with ID can still master digital technology while providing an excellent opportunity to access the internet more deeply. Even if the Internet is available in both hardware and software forms, its configuration may not be friendly to users with disabilities (World Wide Web Consortium 2004) [15]. To address the risks posed to internet access, training and support are crucial to promoting the internet among people with ID [30].

Internet access offers many benefits for people with ID, such as learning, social interaction, and participation in mutual support groups [30]. Through smartphones, the opportunity for people with ID at SLB N Wonogiri is open to access digital content. The presence of social media is one form of channel that attracts the interest of informants to seek information.

Van Laar et al. (2017), through various approaches/reviews, stated that information skills refer to finding and organizing information to develop a 21st-century capability framework, including determining the primary source of reference [20].

With internet skills on smartphones, information is no longer impossible for people with ID to get. Access to information is crucial to an individual's position in society; opening up information will increasingly produce and foster competence in various fields [3].

Several studies refer to the gratification of the use of traditional media proposed by Katz et al. (1973). Then, it developed on digital media transformation by Cho et al. (2003), and Dhir et al. (2016), which focused on the interests, motivations, and expectations of internet media use [20]. Informants in the study tended to use social media as a reference for seeking information in the cognitive (learning) aspect in terms of searching for news updates. The affective aspect appears to fulfill a sense of interest in the talents/interests they have. Personal and social aspects appear in their ability to connect with a network of friends by creating social media accounts and creating a virtual identity through the creation of profile photos, including hiding their personal identities. Furthermore, communication skills are also needed for people with ID as the ability to express opinions. Not all

student informants with ID could do this, they were only limited to giving "likes" and light comments.

ICT is considered a means to bridge the gap between different groups of people, such as groups with special needs. Being part of a social network provides motivation and an active attitude towards media use [20]. The network helps individuals develop communication skills and determine appropriate applications such as social media [20].

Alberto et al. showed that image and logo-based learning is an effective strategy to improve the ability of people with ID to interpret information [16]. The visual skills provided are not only limited to receiving information from the surrounding environment but also allow access to information online. Technology offers many opportunities for people with ID to access information that was previously considered impossible for them.

6. CONCLUSION

The ability to use digital media to access the internet is a tool that significantly influences people's lives. Through ICT and internet access, people obtain information to improve their quality of life. As part of the community, people with ID certainly have the same opportunities and access.

The presence of an educational and family environment is the primary key in establishing a healthy media environment for children with disabilities. With information, one acquires a lot of insight into various fields. No exception for people with disabilities, the internet can open up opportunities for them to work and socialize in a broader virtual scope.

The internet is a hope and opportunity for people with disabilities to participate in developing skills and be recognized in the social sphere of society. It requires support from various parties, including officials (government), to create a healthy internet environment for people with disabilities in the future.

In this study, there are still various shortcomings, especially in using related theories to analyze findings of digital abilities in people with disabilities. The researchers expect that the findings of this study can be a reference for further research. Suggestion for further research is to develop a broader topic through a methodological approach with variables of motivation, physical access, and internet usage.

AUTHORS' CONTRIBUTIONS

All authors have contributed equally in the preparation of this article.

ACKNOWLEDGMENTS

The authors would like to thank the Faculty of Communication and Informatics for their support in completing the research process from beginning to conclusion.

REFERENCES

- [1] N. Y. Asabere and S. E. Enguah, "Use of Information & Communication Technology (ICT) in Tertiary Education in Ghana: A Case Study of Electronic Learning (E-Learning)," *Int. J. Inf. Commun. Technol. Res.*, vol. 2, no. 1, p. 62, 2012.
- [2] N. W. Utami, "Gelap dalam Gemerlap: Gelapnya Akses Informasi Bagi Difabel dalam Gemerlap Era Digitalisasi," *CHANNEL J. Komun.*, vol. 3, no. 2, Oct. 2015, doi: 10.12928/channel.v3i2.3272.
- [3] M. Ragnedda and G. W. Muschert, *The Digital Divide: Internet and Social Inequality in International Perspective*. Routledge, 2013.
- [4] A. J. A. M. van Deursen and J. A. G. M. van Dijk, "Improving digital skills for the use of online public information and services," *Gov. Inf. Q.*, vol. 26, no. 2, pp. 333–340, Apr. 2009, doi: 10.1016/j.giq.2008.11.002.
- [5] J. A. G. M. van Dijk and A. J. A. M. van Deursen, *Digital Skills*. New York: Palgrave Macmillan US, 2014.
- [6] M. Duplaga, "Digital divide among people with disabilities: Analysis of data from a nationwide study for determinants of Internet use and activities performed online," *PLoS One*, vol. 12, no. 6, p. e0179825, Jun. 2017, doi: 10.1371/journal.pone.0179825.
- [7] World Health Organization (WHO), "World Report on Disability," 2011.
- [8] Sylvana Lakkis, "Lebanon: Disability and Access to Information," United Kingdom, 2015.
- [9] D. Chadwick, C. Wesson, and C. Fullwood, "Internet Access by People with Intellectual Disabilities: Inequalities and Opportunities," *Futur. Internet*, vol. 5, no. 3, pp. 376–397, Jul. 2013, doi: 10.3390/fi5030376.
- [10] K. Lathouwers, J. de Moor, and R. Didden, "Access to and use of Internet by adolescents who have a physical disability: A comparative study," *Res. Dev. Disabil.*, vol. 30, no. 4, pp. 702–711, 2009, doi: 10.1016/j.ridd.2008.09.003.
- [11] I. Freeman and A. Hasnaoui, "Information and Communication Technologies (ICT): A Tool to Implement and Drive Corporate Social Responsibility (CSR)," 2010, [Online]. Available: <https://hal.archives-ouvertes.fr/hal-00495968>.
- [12] P. A. Edewor, D. Imhonopi, and U. M. Urim, "ICTs and Sustainable Development of Higher Education in Nigeria: Rewriting the Ugly Narrative," *J. Educ. Soc. Res.*, Jan. 2014, doi: 10.5901/jesr.2014.v4n1p357.
- [13] G. Mascheroni, C. Ponte, and A. Jorge, *Digital Parenting The Challenges for Families in the Digital Age*, no. Yearbook 2018. 2018.
- [14] D. Lussier-Desrochers *et al.*, "Bridging the digital divide for people with intellectual disability," *Cyberpsychology J. Psychosoc. Res. Cybersp.*, vol. 11, no. 1, May 2017, doi: 10.5817/CP2017-1-1.
- [15] K. Dobransky and E. Hargittai, "The disability divide in internet access and use," *Inf. Commun. Soc.*, vol. 9, no. 3, pp. 313–334, 2006, doi: 10.1080/13691180600751298.
- [16] D. D. McMahon, C. C. Smith, D. F. Cihak, R. Wright, and M. M. Gibbons, "Effects of Digital Navigation Aids on Adults With Intellectual Disabilities," *J. Spec. Educ. Technol.*, vol. 30, no. 3, pp. 157–165, Sep. 2015, doi: 10.1177/0162643415618927.
- [17] S. P. Kinasih and Yudha Wirawanda, "Self Disclosure Difabel dalam Media Sosial (Studi Deskriptif Kualitatif Kedalaman Self Disclosure Siswa Difabel Daksa di YPAC Surakarta)," Muhammadiyah Surakarta, 2017.
- [18] R. Kriyantono, *Teknik praktis riset*

- komunikasi kuantitatif dan kualitatif disertai contoh praktis Skripsi, Tesis, dan Disertai Riset Media, Public Relations, Advertising, Komunikasi Organisasi, Komunikasi Pemasaran.* Rawamangun: Prenadamedia Group, 2020.
- [19] S. Margono, *Metodologi Penelitian Pendidikan*. Jakarta: Rineka Cipta, 2005.
- [20] J. A. G. M. van Dijk, *The Digital Divide*. Cambridge: Polity Press, 2020.
- [21] R. I. Aguirre Martínez, P. De Casas Moreno, and G. Paramio-Pérez, "Digital literacy in young people with mild intellectual disability. A case study in the city of Saltillo, Mexico," *Universitas (Stuttg.)*, no. 28, pp. 39–59, Feb. 2018, doi: 10.17163/uni.n28.2018.02.
- [22] A. van Deursen and J. van Dijk, "Internet skills and the digital divide," *New Media Soc.*, vol. 13, no. 6, pp. 893–911, 2011, doi: 10.1177/1461444810386774.
- [23] N. Farhan AA and V. PA, "Social Media Utilisation among Youth," *J. Mass Commun. Journal.*, vol. 08, no. 03, 2018, doi: 10.4172/2165-7912.1000372.
- [24] S. Chairunnisa and B. A.S., "Analysis of Emoji and Emoticon Usage in Interpersonal Communication of Blackberry Messenger and WhatsApp Application User," *Int. J. Soc. Sci. Manag.*, vol. 4, no. 2, pp. 120–126, Apr. 2017, doi: 10.3126/ijssm.v4i2.17173.
- [25] D. N. Bryen, A. Carey, and M. Friedman, "Cell phone use by adults with intellectual disabilities," *Am. Assoc. Intellect. Dev. Disabil.*, vol. 45, no. 1, 2007, doi: [https://doi.org/10.1352/1934-9556\(2007\)45\[1:cpubaw\]2.0.co;2](https://doi.org/10.1352/1934-9556(2007)45[1:cpubaw]2.0.co;2).
- [26] D. Chinn and C. Homeyard, "Easy read and accessible information for people with intellectual disabilities: Is it worth it? A meta-narrative literature review," *Heal. Expect.*, vol. 20, no. 6, pp. 1189–1200, Dec. 2017, doi: 10.1111/hex.12520.
- [27] S. Assegaff, "Evaluasi Pemanfaatan Media Sosial sebagai Sarana Knowledge Sharing," *J. Manaj. Teknol.*, vol. 16, no. 3, pp. 271–293, 2017, doi: 10.12695/jmt.2017.16.3.4.
- [28] I. Sholehah, "Pemberdayaan Difabel Melalui Asset Based Approach: Studi Kasus di Dusun Piring Desa Srihardono Kecamatan Pundong Kabupaten Bantul Oleh Rehabilitasi Terpadu Penyandang Disabilitas (RTPD)," *J. Pemberdaya. Masy. Media Pemikir. dan Dakwah Pembang.*, vol. 1, no. 1, p. 183, Jun. 2017, doi: 10.14421/jpm.2017.011-09.
- [29] S. Cakmak, "Teaching to Intellectual Disability Individuals The Shopping Skill Through Ipad," *Eur. J. Educ. Res.*, vol. 4, no. 4, pp. 177–183, Oct. 2015, doi: 10.12973/eu-jer.4.4.177.
- [30] E. Chiner, M. Gómez-Puerta, and M. C. Cardona-Moltó, "Internet and people with intellectual disability: an approach to caregivers' concerns, prevention strategies and training needs," *J. New Approaches Educ. Res.*, vol. 6, no. 2, pp. 153–158, Jul. 2017, doi: 10.7821/naer.2017.7.243.
- [31] A. J. A. M. van Deursen and J. A. G. M. van Dijk, "The first-level digital divide shifts from inequalities in physical access to inequalities in material access," *New Media Soc.*, vol. 21, no. 2, pp. 354–375, Feb. 2019, doi: 10.1177/1461444818797082.
- [32] C.-C. Chen, "User Recognition and Preference of App Icon Stylization Design on the Smartphone," 2015, pp. 9–15.
- [33] Dian Patria Alan Huda, "Motivasi Penggunaan Emoji Pada Whatsapp Dan Kepuasan Dalam Penyampaian Pesan," *Sebelas Maret*, 2017.
- [34] N. Anggraeni and U. Zulfiana, "Hubungan Kesepian dan Pengungkapan Diri di Instagram pada Dewasa yang Belum Menikah," *J. Ilm. Psikol. Terap.*, vol. 06, p. 245, 2018.
- [35] Michael Blakemore, "UNESCO. (2013). UNESCO global report: opening new avenues for empowerment: ICTs to access information and knowledge for persons with disabilities," 2013.