

# The Role of Digital Literacy as a Development of *Learning Intelligence* for PPKn Course Students at SMK TI Garuda Nusantara, Cimahi City

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## ABSTRACTS

This research aims to: (1) find out the ability of students to use digital literacy as a means of developing *learning intelligence* in PPKn subjects, (2) identify sources of information that students are looking for, and (3) analyze the impact of digital literacy on the development of student learning intelligence in PPKn subjects. interviews, documentation, and triangulation. The results of the study show that students have understood and have digital literacy skills accompanied by a character who is responsible for each source of information used. Commonly accessed sources of information include Google, YouTube, e-books, websites, Teacher's Room, online articles, Instagram, and TikTok. Digital literacy has a positive impact on learning intelligence, including increasing caution in finding and using information, checking the accuracy of sources before use, avoiding plagiarism, and fostering a sense of *civic responsibility* as a form of appreciation for the work of others.

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## 1. INTRODUCTION

The development of information and communication technology in the digital era has changed the pattern of information acquisition, processing, and utilization, including in the field of education. Learning activities are now not limited to print media, but also utilize various digital platforms such as e-books, online articles, websites, and social media (Suardi, 2018). This condition requires digital literacy skills, namely the ability to search, evaluate, and use

information effectively, ethically, and responsibly (End, 2017).

Although Indonesia's young generation is able to access digital media, research shows that their ability to assess the credibility of information is still low (Ramdhan, 2017). This challenge is exacerbated by a low culture (Dewi et al., 2021), thus having an impact on critical thinking and problem-solving skills (Suparmoko, 2020). To overcome this, the Ministry of Education and Culture launched *School Literacy Movement* (Ministry of Education and Culture of the Republic of Indonesia, 2015) which places digital literacy

as one of the six basic literacy *World Economic Forum* (2015) to form responsible digital citizens (*Civil Liability*).

Previous research, such as (Yusuf et al., 2019) It shows that students' digital literacy is quite good at searching for information, but weak in content evaluation and ethics of use. Therefore, an integrated learning strategy is needed, including in the subject *Pancasila and Civic Education* (PPKn), to develop learning intelligence (*Learning Intelligence*) students. Especially in the era of the Industrial Revolution 4.0, it demands a transformation in the world of education, especially in technological integration. PPKn subjects can no longer be taught conventionally, but must be relevant to the lives of students who are closely related to digital technology. Digital literacy is an essential competency for students. This literacy is not only about the technical ability to use gadgets, but also the ability to think critically, evaluate information, and participate responsibly in the digital environment. This study aims to examine the role of digital literacy in improving the learning intelligence of PPKn students at SMK TI Garuda Nusantara, considering that this school specializes in the field of information technology.

Refers to a person's ability to understand, evaluate, and create information through digital technology. The digital literacy framework covers various aspects, such as technical, cognitive, and social-emotional abilities. Learning Intelligence: This concept focuses not only on intellectual intelligence (IQ), but also emotional, social, and moral intelligence, all of which play an important role in the learning process. In the context of PPKn, learning intelligence includes students' ability to understand the values of Pancasila, interact with others, and participate as good citizens.

Digital literacy can be a bridge between PPKn theory and real practice in students' lives. For example, students can analyze political issues circulating on social media or participate in online discussions about citizenship.

This study aims to: (1) analyze students' ability to use digital literacy in PPKn

learning, (2) identify the sources of information used, and (3) examine the impact of digital literacy on their learning intelligence at SMK TI Garuda Nusantara, Cimahi City. The results of the research are expected to contribute to the development of PPKn learning that is relevant to the demands of the 21st century and form students as intelligent, critical, and responsible young citizens in the digital era.

## 2. METHODS

This research uses a descriptive method with a qualitative approach that aims to provide an in-depth overview of the role of digital literacy in the development of *student learning intelligence* in *Pancasila and Civic Education* (PPKn) subjects. The location of the research was determined at SMK TI Garuda Nusantara, Cimahi City through purposive techniques, with the consideration that this school has adequate information technology facilities and has implemented digital literacy-based learning.

The research subjects include PPKn teachers, curriculum staff, and students who are directly involved in the PPKn learning process.

Data collection was carried out through observation, in-depth interviews, documentation studies, and triangulation. Observations are carried out to directly observe the learning process and the use of digital media by students. In-depth interviews were conducted with teachers, curriculum staff, and PPKn students to explore the experiences, perceptions, and challenges faced in the implementation of digital literacy. The documentation study includes the analysis of the Learning Implementation Plan (RPP), student assignments, and school policies related to digital literacy. To ensure the validity of the data, the researcher triangulated by combining observations, interviews, and documentation.

Data analysis was carried out using the Miles and Huberman interactive model which consisted of three stages, namely data reduction, data presentation, and conclusion drawing and verification. Through this

approach, the data collected is systematically processed to produce a comprehensive understanding of digital literacy practices in PPKn learning and its impact on students' learning intelligence. The results of the analysis are expected to be the basis for recommendations for the development of learning strategies that are relevant to the demands of the digital era.

### 3. RESULTS AND DISCUSSION

#### 1. Students' Ability to Use Digital Literacy for Learning Intelligence Development

The results of observations and interviews show that the majority of students of SMK TI Garuda Nusantara Cimahi City already have adequate basic digital literacy skills. They are used to using various digital platforms such as *Google*, *YouTube*, *e-books*, online articles, and learning applications (*Ruang Guru*, *Zenius*, *Quipper*). In the process of searching for information, some students are able to use the right keywords, *cross-check* from several sources, and avoid the practice of plagiarism by rewriting information using their own language.

However, the study also found that there are groups of students who are not optimal in evaluating the credibility of sources. Some of them tend to trust information from social media without verification, sometimes even just based on the popularity or number of "*likes*" a piece of content receives.

These findings are relevant to the concept of digital literacy put forward by (End, 2017), i.e. the ability to understand and use information from various digital formats critically and wisely. According to (BPK, 1996), digital literacy includes technical skills (accessing and operating technology) and cognitive skills (analyzing, evaluating, and utilizing information ethically).

In the context of PPKn, this ability is very important to support learning objectives that emphasize the development of critical thinking skills, legal awareness, and responsibility as a citizen. This is in line with the theory *Learning Intelligence* Posted by

(Syharifah, 2019), where digital literacy can facilitate the development of linguistic intelligence (reading and writing), logic-mathematics (information analysis), interpersonal (online collaboration), and intrapersonal (self-reflection).

The study also supports the findings (Amin et al., 2020) which states that digital literacy is one of the keys to improving the quality of learning in the 21st century because it provides opportunities for students to engage in independent, creative, and innovative learning processes. We can see the ability of students with digital roles that increase their ability in knowledge in learning. It turns out that using literacy can increase students' ability to be more in terms of intelligence. This can be seen in the following table:

**Table 1.** Students' Ability to Use Digital Literacy to Develop Learning Intelligence

| Aspects of Learning Intelligence | Ability Description                                                                       | Implementation in PPKn Learning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------|-------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cognitive Intelligence           | Ability to think critically, analyze information, and solve problems using digital tools. | <ul style="list-style-type: none"> <li>Critical Analysis of Digital Sources: Able to distinguish original news (facts) from fake news (hoaxes) circulating on social media related to political issues or government policies.</li> <li>Data Collection and Processing: Using online survey applications (e.g., Google Forms) to collect friends' opinions on the application of Pancasila values in schools, then processing the data into graphs or infographics.</li> <li>Information Synthesis:</li> </ul> |

|                                   |                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                   |                                                                                                                                                          | Combining information from various online sources (articles, videos, podcasts) to create a comprehensive presentation of citizens' rights and obligations.                                                                                                                                                                                                                                                                                                     |
| Social and Emotional Intelligence | Ability to interact, collaborate, and empathize with others in a digital environment effectively and responsibly.                                        | <ul style="list-style-type: none"> <li>Online Collaboration: Work with a group via Google Docs or Miro to draft a paper or project.</li> <li>Discussion and Debate: Participate in online forums or school social media groups to discuss social issues with polite and structured arguments.</li> <li>Digital Empathy: Understanding and responding wisely to other people's views or comments on social media, as well as avoiding cyberbullying.</li> </ul> |
| Moral and Ethical Intelligence    | Ability to act ethically, responsibly, and safely in using digital technology, as well as understand the impact of online actions on oneself and others. | <ul style="list-style-type: none"> <li>Uphold Ethics: Understand and apply online etiquette when communicating.</li> <li>Respect Copyright: Use images, videos, or text from the internet by listing the source to avoid plagiarism.</li> <li>Digital Responsibility: Avoid the spread of false information or content that contains SARA (Ethnic, Religious, Racial, and Inter-Group) as a form of responsibility as a citizen.</li> </ul>                    |

The table above outlines how digital literacy plays a role as a tool to develop students' learning intelligence, which is not only limited to academic abilities, but also includes social, emotional, moral, and ethical aspects.

## 2. Types of Digital Information Sources Students Use

The types of information sources used by students are very diverse, ranging from search engines such as *Google*, online news portals, video platforms such as *YouTube*, social media such as *Instagram* and *TikTok*, to academic sources such as scientific journals, e-books, and official government websites. For PPKn materials, students often use the *websites of the Ministry of Law and Human Rights, BPKN*, and *BPS* to obtain valid legal data and information. We can see this in the following table.

**Table 2.** Types of Digital Information Sources Students Use

| Source Categories | Description                                                                                                                                         | Sources and Their Functions                                                                                                                 | Excels                                                             | Cons & Challenges                                                                                             |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Formal Sources    | Sources of information that go through an editorial, curation, or publication process from official/academic institutions. Its credibility is high. | Academic Database: Google Scholar, JSTOR. (For scientific research).<br>Official Institution Website: The website of a government (ministry | Accurate, accountable, and relevant for formal education purposes. | It often requires a subscription or paid access, a more complex interface, and the content tends to be heavy. |

|                                                     |                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                      |                                                                                                                                                                                         |
|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                     |                                                                                                                                                                                              | ),<br>universit<br>y, or<br>non-<br>profit<br>organizat<br>ion. (For<br>official<br>data &<br>policies).<br><br>E-books:<br>The<br>digital<br>collectio<br>n of a<br>leading<br>library or<br>publisher<br>. (For in-<br>depth<br>reference<br>).                                                                                  |                                                                                                                                      |                                                                                                                                                                                         |
| Informal<br>(Non-<br>Academi<br>c)<br>Resource<br>s | Sources of<br>informatio<br>n that do<br>not go<br>through a<br>rigorous<br>verificatio<br>n process<br>are often<br>personal<br>or<br>communit<br>y-based.<br>Its<br>credibility<br>varies. | Social<br>Media:<br>YouTube<br>, TikTok,<br>Instagra<br>m,<br>Twitter.<br>(For<br>quick<br>informati<br>on,<br>breaking<br>news, or<br>visual<br>content).<br><br>Blogs<br>and<br>Forums:<br>Personal<br>blogs,<br>discussio<br>n<br>forums,<br>or non-<br>official<br>news<br>sites.<br>(For<br>opinions,<br>personal<br>experien | It's<br>access<br>ible, intera<br>ctive, and<br>the conte<br>nt is often<br>lighte<br>r and releva<br>nt to popul<br>ar cultur<br>e. | The<br>potential<br>for hoaxes<br>and<br>disinformati<br>on is very<br>high. The<br>credibility<br>is not<br>guaranteed<br>and the<br>information<br>can be<br>biased or<br>inaccurate. |

|  |  |                                                                                                                                                               |  |  |
|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
|  |  | ces, or<br>alternativ<br>e views).<br><br>Collabor<br>ative<br>Platform:<br>Wikipedi<br>a. (As a<br>starting<br>point for<br>a search<br>or<br>overview<br>). |  |  |
|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|

However, some students still rely on social media as the main source of information because it is considered fast and easily accessible, although the accuracy of the information is not always guaranteed.

The diversity of information sources used by students reflects the characteristics of the information society (*Information Society*) as described (Dukeshire et al., 2012) where the flow of information is massive, fast, and easily accessible. The main challenge is how to ensure that the information is credible, accurate, and relevant to learning needs.

According to the theory *Media literacy* Sent (Raharjo & Winarko, 2021) The evaluation of information sources includes checking the author's credibility, publication objectives, and the accuracy and completeness of the data. In PPKn learning, teachers can integrate these skills through project-based assignments that encourage students to use various sources and compare information before drawing conclusions.

Research (Yusuf et al., 2019) also supports this finding, where Indonesian students are relatively skilled in searching for digital information, but are still weak in evaluating content and applying ethics of use. Therefore, the role of teachers is essential to direct students to choose sources that are credible and in line with the goals of civic education.

### 3. The Impact of Digital Literacy on Student Learning Intelligence

The use of digital literacy has a positive impact on the development of students' learning intelligence. Students show improvements in critical thinking skills, problem-solving skills, and logical argumentation structures. They become more creative in processing information and are able to present it in the form of presentations, infographics, or learning videos.

In addition, there are positive attitudes such as prudence in sharing information, ethical awareness in listing sources, and increased sense of responsibility as a digital citizen. The impact of Digital Literacy on Student Learning Intelligence can be seen in the following table:

**Table 3.** The positive impact of digital literacy on various aspects of student learning intelligence.

| Aspects of Learning Intelligence  | The Positive Impact of Digital Literacy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cognitive Intelligence            | <p>Improved Critical Thinking Skills: Students become more proficient in evaluating information from various sources, distinguishing fact from hoaxes, and analyzing arguments.</p> <p>Improved Problem-Solving Skills: Students can access and process a wider range of data, use digital simulations, or collaborate online to find innovative solutions.</p> <p>Improved Research Ability: Access to academic databases and sophisticated search engines enables students to conduct research independently and comprehensively.</p> |
| Social and Emotional Intelligence | <p>Improved Communication and Collaboration Skills: Students learn to interact, discuss, and work in virtual teams through digital platforms, which hone their social skills.</p> <p>Increased Empathy and Tolerance: Through exposure to diverse cultural and social perspectives on the internet, students can develop understanding and tolerance for differences.</p> <p>Self-Regulation: Students learn to control emotions and behaviors when interacting online, such as avoiding conflict and cyberbullying.</p>                |
| Moral and Ethical Intelligence    | <p>Awareness of Digital Ethics: Students are becoming more aware of the importance of online etiquette,</p>                                                                                                                                                                                                                                                                                                                                                                                                                             |

|                                                                                                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| including not plagiarizing or spreading content that harms others.                                                                                                                                |
| Digital Citizenship Responsibilities: Students understand their role as responsible citizens in cyberspace, including in maintaining data privacy and countering the spread of false information. |
| Formation of Positive Digital Identity: Students learn to build a good and responsible self-image in the digital space.                                                                           |

From the table above, we can observe that teachers also observe that students are more actively participating in class discussions, because they have more diverse and up-to-date information references.

This positive impact is in line with the 21st century competency framework formulated by the Partnership for 21st Century Skills (P21, 2015), where digital literacy is one of the key skills that support creativity, collaboration, communication, and critical thinking.

In perspective *Learning Intelligence* (Logan, 2016), digital literacy contributes to the development of various intelligences, both cognitive (analytical and critical thinking skills), affective (ethical attitudes and responsibility), and psychomotor (the use of technology for content production). This is also in line with the view (Rohayani, 2010) about *Civil competence*, which includes the ability and willingness of individuals to participate actively, ethically, and responsibly in social life, both in the real and digital worlds.

The study also confirms the view that (Rahmandani & Parera, 2020) That mastering digital literacy skills can increase learning effectiveness by providing access to broad, diverse, and relevant information, so that students can build new knowledge independently and deeply.

#### 4. CONCLUSION

First, the ability of students to use digital literacy as a learning intelligence development in PPKn courses at SMK TI Garuda Nusantara, Cimahi City can be seen from three main aspects. First, in terms of teachers' and students' understanding of the

concepts and elements of digital literacy. This understanding is an important basis for the implementation of digital literacy in technology-based schools to run effectively. With a good understanding, students can utilize digital literacy to support learning, while teachers can direct the use of technology appropriately.

Second, the role of PPKn teachers is very prominent in shaping the character of responsible citizens (*civic responsibility*). Teachers guide students to be wise in utilizing technology in the digital era, in line with the mission of the PPKn course and the demands of the Independent Curriculum which places digital literacy as a basic skill that must be mastered by students. With this guidance, students not only master technology, but also have a critical, thoughtful, and responsible attitude in its use.

Third, the learning methods and media used by teachers support the creation of digital literacy-based learning intelligence. Methods such as questions and answers, discussions, and assignments are combined with *the Discovery Learning* and *Problem Based Learning* models with a scientific

approach. This combination of methods encourages active student engagement, trains critical thinking skills, and reinforces the habit of using technology safely and appropriately.

In supporting the learning process, students utilize various online information sources. They often use *Google, YouTube, e-books, websites, Instagram, TikTok, and podcasts* that are considered easy to understand, both through audio and audiovisual formats. This diversity of resources makes learning more engaging and helps students understand the material in a more varied way.

The application of digital literacy in PPKn subjects has a significant positive impact. Students become more *up to date* with scientific developments, have skills in using digital devices, and are wise and responsible in managing information. They are now able to track, verify, and use valid sources to avoid fake news (*hoaxes*), showing an improvement not only in terms of knowledge, but also in terms of ethics and responsibility in the use of technology.

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