

Perception of Digital Technology in Project Based Learning for Digital Native Students in Elementary School

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ABSTRACT

Background: Education in the digital era is undergoing a significant transformation that demands a paradigm shift in the learning process. Through this learning activity, technology is required to develop students' skills. In this context, an innovative learning approach is Project-Based Learning. Where digital native students are accustomed to using digital technology, they use this technology in their daily lives. *Aim:* Therefore, the researcher in this study aims to analyse the perception of digital technology in Project-Based Learning for digital native students in elementary schools. *Method:* This research uses a qualitative approach. Research participants are principals and teachers. Data collection techniques are observation, interview and documentation. The analysis technique used is interactive data analysis through data reduction, data presentation, and data conclusion. *Results and Discussions:* The results showed that the perception of digital technology in Project Based Learning is the ease of access and use of technology, motivation and involvement in learning, collaboration and social learning, creativity and innovation, and improving technology skills. *Conclusion:* Through learning activities with project-based learning, students can access various applications and software such as tiktok, zoom, google meet, and learning platforms. Therefore, project-based learning with digital technology has an impact on students in developing varied, innovative, creative and interesting project skills.

Keywords: Digital Technology, Project Based Learning, Digital

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INTRODUCTION

Education in the digital era is undergoing a significant transformation that demands a paradigm shift in the learning process. Through these learning activities, the development of information and communication technology (ICT) is needed to influence the way students acquire knowledge, interact and solve problems (Suwandi, 2022) . Not only that, technology has an important meaning in learning activities to influence how we learn and teach. The importance of technology integration in education aims to create a learning ecosystem that is relevant to the needs of the 21st century (Syajili & Maman Abadi, 2021) . In this context, an innovative learning approach that can be applied is *Project-Based Learning*. According to Hayati et al., (2024) explains that *Project Based Learning* is a learning method applied in student learning activities through projects that aim to develop students' skills in critical and thinking.

Learning activities that are supported by digital technology, provide an important meaning that this digital technology can influence students in project-based learning activities. So that in this learning activity it is necessary to integrate digital technology in *Project Based Learning* considering the large number of students who grew up in the digital era known as Digital Natives. According to Wardani et al., (2024)

explains that Digital Natives are a generation born and grown along with the rapid development of digital technology. Where these digital native students are accustomed to using digital technology, they use this technology in their daily lives. Technology, especially digital natives, opens opportunities for students to develop a variety of interactive, creative, innovative and collaborative learning models (Darwati & Purana, 2021) . With this, *project-based learning* has a close relationship with digital native students, of course, in the use of technology.

Through the application of project-based learning, digital native students are able to manage technology well so that it provides an impact and experience for students to learn and understand related to learning. This is explained by According to Hastini et al., (2020) digital natives have unique characteristics, such as multitasking abilities, high skills in technology navigation, and preferences for visual and interactive learning. In addition, Sari & Utami, (2023) states that digital native students are more responsive to technology-based learning media, which provides a richer and more engaging learning experience than traditional methods. Therefore, it is important to develop learning strategies that suit the characteristics of the current generation.

The role of digital technology in learning is increasingly integral in this era. Technology provides various tools that can support the implementation of PBL, such as collaboration software, e-learning platforms, to simple programming applications. Research by Hehakaya & Pollatu, (2022) confirms that digital technology can enrich the learning experience in PBL by providing extensive resources, visualization tools, and opportunities for cross-regional collaboration. At the elementary level, technology integration also helps digital native students in developing digital literacy skills and creative problem solving (Liyana et al., 2024) .

However, although many studies show the great potential of PBL and digital technology separately, there are still limited studies related to the perception of their combination in the context of elementary students' learning. Research by Wicaksono et al., (2023) highlights the effectiveness of PBL in improving concept understanding in students, while Wiriany et al., (2022) emphasizes the role of technology in improving student learning engagement. Research that integrates these two approaches is an urgent need to ensure the relevance of education in the digital era for elementary school students who are digital natives.

Based on these various views, digital natives can be defined as a generation born and raised in an environment dominated by digital technology, with a high ability to utilize digital devices for learning. Therefore, the research above explains the effectiveness of digital technology in digital natives. However, not with the perception that focuses on digital native technology in project-based learning for digital native students in elementary schools. From the above problems, researchers will elaborate on the **Perception of Digital Technology in Project Based Learning for Digital Native Students in Elementary Schools.**

METHOD

This research uses a qualitative approach with a focus on obtaining quality and meaningful data through descriptive, inductive, and analytical methods (Sutama, 2022). In qualitative research emphasizes a holistic description, where in this study describes an aspect in detail related to activities (Baturetno et al., 2023) . It is clarified by Hadi (2021) that qualitative research aims to obtain complete data that is in accordance with the research. This research uses a phenomenological type of research. Explained by Sutama (2019) that the type of phenomenological research is an approach that is carried out by observing nature and going to the field. Where with the type of research conducted to explore related to Perceptions of Digital Technology in *Project Based Learning* for Digital Native Students in Elementary Schools. Researchers in this study collected data in the field by visiting the subject to be addressed.

Researchers conducted research in one of the elementary schools SDN Gumpang 01 Kartasura In this study, the selected location is a school that applies Digital Technology

for Digital Native Students. Researchers collected qualitative data in the form of narratives related to Perception of Digital Technology in *Project Based Learning* for Digital Native Students in Elementary Schools Researchers in this case used observation, interview and documentation techniques. Observation is carried out by observing the intended object, namely one of the elementary schools SDN Gumpang 01 Kartasura Interviews are conducted to collect data related to oral information on the questions asked (Sutama, 2019). In this interview, interviews were conducted with the principal, teachers, and students related to the Perception of Digital Technology in *Project Based Learning* for Digital Native Students in Elementary Schools. Documentation in this study is in the form of observation and interview notes.

Data analysis used in relation to this research is interactive with stages in accordance with Miles and Huberman that in research, namely reducing data, presenting data and drawing conclusions guided by (Saleh, 2017) . Data validity used by researchers is by triangulating sources and methods. Where with the triangulation of data sources researchers will be matched by researchers, namely the principal, teachers, and students. While method triangulation is carried out by collecting observation and documentation data related to the Perception of Digital Technology in *Project Based Learning* for Digital Native Students in Schools.

RESULTS AND DISCUSSION

In this research, what will be discussed is related to the perception of digital technology in Project Based Learning for Digital Native Students in Elementary Schools. There are several findings based on the results of interviews and data analysis, among others.

1) Ease of Access and Use of Technology

Digital technology does have advantages, namely to facilitate access and use of technology. Through this digital technology, students can access learning activities related to learning materials, especially in the use of project-based learning methods. This was explained by IP, that:

"Yes, of course this digital technology provides convenience in the use of technology and access in various learning activities. Therefore, students will be more innovative, creative in learning activities because students are given the opportunity to use digital technology."

The same thing was explained by SZ, that

"Indeed, in using digital technology, students can access easily related to learning, especially project-based learning. Students will find it easier to find various skills that can develop projects by accessing through digital technology. "

The above is reinforced by Salmela-aro et al., (2016) that in digital technology, especially project-based learning for digital native students, it provides convenience in accessing and using technology to seek knowledge and understanding related to projects that will be developed by students. Where with the ease of access and use of technology will have an impact on

students in adding insights related to digital technology-based projects (Pantiwati et al., 2023) .

2) Motivation and Engagement in Learning

Motivation and engagement in learning are the impacts of digital technology. These digital technologies encourage students to be creative, innovative and collaborative in relation to the learning activities implemented in the classroom. Explained by EN, ie:

"Through digital technology, it encourages and motivates students to continue learning related to digital technology. With this digital technology activity, students follow actively and with high enthusiasm in learning, especially learning with the project-based learning model."

Explained by KS, namely:

"Digital Native motivates and engages students in more active learning, seeing the enthusiasm of students with project-based learning combined with digital technology is an attraction for students in developing learning, especially related to projects."

From the description above, it can be explained by Oktiani, (2017) that motivation and involvement in learning are indeed very important in project-based learning activities with digital technology. This is reinforced by Sofia et al., (2023) that with this digital technology learning becomes interesting and gives the impression for students to be active and enthusiastic well. So that this learning provides meaning and a positive contribution for students in encouraging the development of learning through projects.

3) Collaboration and Social Learning

Project-based learning often involves group work and this digital technology allows students to collaborate with friends. This technology provides opportunities for students to learn or group not in the classroom but in cyberspace, namely through zoom, learning platforms and google meetings. In addition, this collaboration and social learning will make it easier to group, discuss and communicate and look for information sharing that students need in project-based learning. This was explained by EN, that:

"Yes, this project-based learning activity involves students in collaborating or grouping with friends. Where in this activity students are given easy access, especially in using applications that can provide opportunities for students who can use digital technology, namely zoom, google meet and learning platforms. Where this activity can be carried out with remote collaboration, which is between teachers and students, and students and students."

The same thing was explained by KS, that:

"In learning activities, I provide opportunities for students learn project-based learning through digital technology. For example, YouTube, TikTok to improve students' skills, innovation and creativity in learning activities."

From the description above, it is reinforced by research Ripai & Sutarna, (2019) that collaboration and social learning provide an influence for students to work together and in groups in building student creativity through various technologies, especially the zoom application, tiktok, google

meet and learning platforms. This is emphasized by Sholeh et al., (2021) that with these applications students can conduct discussions, collaborate and also search for information related to projects. Therefore, technology facilitates collaboration and social learning, especially in project-based learning skills.

4) Creativity and Innovation

Students who are accustomed to using digital technology certainly tend to think that digital technology provides creative freedom in completing projects. This was explained by SZ, that:

"Digital technology for students will further enhance creativity and innovation because with this technology students will be able to use applications and with innovation students will be able to use various software that can be used to edit videos, create graphic designs, and various other design skills."

Another point was explained by EN, that:

"A lot of digital technology implemented in project-based learning can open up opportunities to express ideas creatively so that learning is more exciting and varied."

From the description above, it is reinforced by Mariati et al., (2021) that these digital native students have advantages in using technology and software to develop a variety of varied products. In addition, it is reinforced by Sadikin et al., (2024) that students with this digital technology will be more interested and in learning especially projects will be more exciting and fun.

5) Technology Skills Enhancement

Technological skills currently need to be mastered by 21st century students. Where with these technological skills it will be easier to explore various information, knowledge and increase student skills. Explained by EN, that:

"Improving these technology skills will be easier if students are already familiar with the digital technology being used. Where students develop these project skills with the aim of developing digital skills."

Clarified by KS, that:

"Yes, indeed, the use of digital technology will provide more opportunities for students to develop various project skills, so that this project will have an impact in the future."

Reinforced by (Hehakaya & Pollatu, (2022) that the goal of improving technological skills needs to be instilled in students from an early age, through improving technological skills will have an influence on students in developing digital technology skills especially for digital native students (Rizal, 2023) .

CONCLUSION

Based on the results of research conducted by researchers, it can be concluded that the perception of digital technology in *project-based learning* for elementary school digital native students is the ease of access and use of technology, motivation and involvement in learning, collaboration and social learning, creativity and innovation, and

increasing technological skills. Through learning activities with project-based learning, students can access various applications and software such as tiktok, zoom, google meet, and learning platforms. Therefore, project-based learning with digital technology has an impact on students in developing varied, innovative, creative and interesting project skills.

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