

The Impact of Online Learning on the Understanding of Learning Materials for Visually Impaired Students at SLB N 1 Bantul

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Abstrak

Tujuan penelitian ini adalah untuk mengetahui dampak pembelajaran daring pada pemahaman materi pembelajaran siswa tunanetra di SLB N 1 Bantul.

Penelitian ini menggunakan pendekatan kualitatif yang dilakukan di SLB N 1 Bantul. Metode pengambilan datanya menggunakan observasi, wawancara, dan dokumentasi. Sumber datanya adalah guru dan datanya berupa peristiwa, hasil wawancara, dan dokumen. Analisis datanya meliputi pengumpulan data, reduksi data, penyajian data, dan kesimpulan. Pemeriksaan datanya menggunakan uji kredibilitas, uji transferability, dan uji dependability.

Hasil penelitian, 1) Pembelajaran daring di SLB N 1 Bantul memiliki dampak positif terhadap tingkat pemahaman siswa tuna netra terhadap konsep-konsep sosial dan sains. Dukungan aktif dari guru, orang tua, serta kemampuan adaptasi siswa menjadi kunci dalam pencapaian hasil yang menggembirakan ini; 2) Melalui pembelajaran daring, siswa tuna netra SLB N 1 Bantul mampu secara efektif menerapkan konsep pembelajaran daring dalam situasi nyata. Dukungan dari guru, lingkungan pembelajaran yang inklusif, serta peran aktif orang tua telah berkontribusi dalam membentuk kemampuan praktik dan analisis mereka; 3) Pembelajaran daring memberikan dampak positif yang signifikan pada kemajuan akademik siswa tunanetra. Peningkatan pemahaman, partisipasi, dan keterampilan kritis menjadi bukti nyata akan efektivitas pendekatan ini. Meskipun ada tantangan dalam mencapai peningkatan setinggi pembelajaran tatap muka, dukungan yang tepat dari guru dan lingkungan pembelajaran inklusif dapat membantu siswa tunanetra menghadapi tantangan dengan percaya diri dan mencapai hasil pembelajaran yang lebih baik.

Kata kunci: *Dampak, pembelajaran, daring, pemahaman, materi, siswa tuna netra*

Abstract

The aim of this study is to understand the impact of online learning on the comprehension of learning materials by visually impaired students at SLB N 1 Bantul. This research utilizes a qualitative approach conducted at SLB N 1 Bantul.

Data collection methods include observation, interviews, and documentation. The data sources are teachers, and the data itself consists of events, interview results, and documents. The data analysis includes data collection, data reduction, data presentation, and drawing conclusions. The data validation uses credibility tests, transferability tests, and dependability tests.

The research results are as follows: 1) Online learning at SLB N 1 Bantul has a positive impact on the understanding of social and science concepts by visually impaired students. Active support from teachers, parents, and the students' adaptability has been key in achieving these encouraging results; 2) Through online learning, visually impaired students at SLB N 1 Bantul are effectively able to apply learning concepts in real-life situations. Support from teachers, an inclusive learning environment, and the active role of parents have contributed to the development of their practical and analytical skills; 3) Online learning has a significant positive impact on the academic progress of visually impaired students. The improvement in understanding, participation, and critical thinking skills is clear evidence of the effectiveness of this approach. Although there are challenges in achieving the same level of progress as face-to-face learning, appropriate support from teachers and an inclusive learning environment can help visually impaired students face challenges with confidence and achieve better learning outcomes.

Keywords: Impact, learning, online, comprehension, material, visually impaired students

A. Pendahuluan

The aim of this study is to understand the impact of online learning on the comprehension of learning materials by visually impaired students at SLB N 1 Bantul as a continued effort to educate the nation's children, even during the pandemic.

With the onset of the Covid-19 pandemic, school learning has tended to be conducted using online media. The internet has become the sole medium of instruction to meet health protocols for physical and social distancing, avoiding close contact and crowds. This applies to the education of visually impaired students as well—students with special needs caused by the non-functioning of both eyes as a channel for receiving information in daily activities, unlike those with normal vision (Hikmah & Pramudya, 2014; Arnita & Andy, 2018).

At SLBN 1 Bantul, online learning is conducted using shared videos. Before starting the online lessons, we as teachers first discuss with the parents to ensure they assist during the online learning by guiding the students as they watch the instructional videos. We assign tasks to the students to perform activities at home, such as washing dishes, sweeping, taking out the trash, wiping

windows, and so on. While the children are engaged in these activities at home, we ask the parents to supervise and support them.

In online learning at SLB N 1 Bantul, several issues have been identified: 1) the effectiveness of online learning in improving the understanding of visually impaired students at SLB Negeri 1 Bantul, Yogyakarta has not yet been explored; 2) the challenges faced by visually impaired students in following online learning at SLB Negeri 1 Bantul, Yogyakarta have not yet been documented; 3) effective online learning strategies for visually impaired students at SLB Negeri 1 Bantul, Yogyakarta have not yet been established; 4) the perceptions of visually impaired students regarding online learning at SLB Negeri 1 Bantul, Yogyakarta have not yet been identified; and 5) the impact of online learning on the motivation and engagement of visually impaired students at SLB Negeri 1 Bantul, Yogyakarta has also not yet been identified.

B. Kajian Pustaka

1. Learning and Teaching

Vesta and Thomson (1970), as cited in Rusman (2017), state that learning is a relatively permanent change in behavior as a result of experience. Meanwhile, Surya (1997) tends to define learning as a process undertaken by an individual to achieve an overall change in behavior, as a result of the individual's own experience in interacting with their environment.

Teaching is a process carried out by educators to guide and direct students to gain learning experiences. Teaching can also be understood as the process of facilitating students to acquire specific competencies and to optimally develop their potential (Ratumanan and Rosmiati, 2019:22). Essentially, teaching is an interaction process between teachers and students, either through direct interaction such as face-to-face activities or indirect interaction using various learning media (Rusman, 2017:84). Teaching is a structured combination that includes elements such as people, materials, facilities, equipment, and procedures that interact with each other to achieve educational goals (Hamalik, 2003). Furthermore, teaching activities are designed to provide learning experiences that involve both mental and physical processes through interactions among students, between students and teachers, the environment, and other learning resources, in order to achieve basic competencies (BNSP, 2006).

Thus, teaching is a social environment characterized by interactions among students, between students and teachers, the environment, and learning resources used to provide learning experiences to students, resulting in new behavioral changes in students according to basic competencies.

2. Educational Media

Educational media refers to all forms of physical tools designed systematically to convey information and build interactions (Yaumi, 2019). Educational media are used as tools and materials for teaching

activities (Daryanto, 2016). Along with technological advancements, educational media have evolved to reflect technological progress, from manual technologies to electronic (e-learning) and from audio and radio media to multimedia.

However, in essence, the process of teaching and learning is a communication process from the sender (teacher) to the receiver (student). The message, which consists of content (instruction), is conveyed through communication symbols, either verbal (words and writing) or non-verbal; this process is called encoding. The interpretation of these communication symbols by the students is known as decoding. This interpretation can either fail or succeed, depending on the level of communication barriers or noise present. The more verbal the communication, the more abstract the understanding that is received (Daryanto, 2016).

Since the learning process is a communication process and occurs within a system, educational media hold a significant position as one of the components of the learning system. Without media, communication would not occur, and the communication process would not function optimally. Educational media are an integral component of the learning system.

3. Online Learning

Pembelajaran daring adalah pembelajaran yang dilaksanakan secara *online* menggunakan beberapa *platform* pembelajaran *online* seperti Moodle, Google Classroom, Zoom *Meeting*, Google Meet, Webex dan lain sebagainya (Purwanto et al., 2020). Dalam definisi lainnya, pembelajaran daring merupakan program penyelenggaraan kelas pembelajaran dalam jaringan untuk menjangkau kelompok target yang luas menggunakan jaringan dan pembelajaran bisa dilaksanakan secara luas dengan peserta didik yang tidak terbatas (Bilfaqih & Qomarudin, 2015).

There are several theories about online learning, including the following.

- a. Constructivist Theory: According to this theory, learning is the process of constructing knowledge by individuals through experience and reflection. In online learning, students build their own knowledge through interaction with learning content and participation in structured learning activities.
- b. Activity Theory: This theory emphasizes the importance of students being active in the learning process. Online learning can facilitate students' interaction with a broader learning environment, including through various resources and support for self-directed learning.
- c. Cognitive Theory: This theory focuses on the mental processes that occur when individuals process information. In online learning, students must be able to process information from various sources and integrate this information into their knowledge.
- d. Social-Constructivist Theory: This theory emphasizes the importance of the social environment in learning, where individuals build their

knowledge through interaction with others. In online learning, students can interact with teachers and classmates through various digital platforms and share knowledge with one another.

- e. Self-Regulation Theory: This theory emphasizes the importance of students having self-control in learning. In online learning, students must be able to manage their own time, motivate themselves, and take full responsibility for their learning.

4. Teori Pemahaman Siswa

The level of students' understanding of the material in a learning process is very important. Theories related to students' understanding of learning material include several theories as follows.

- a. Constructivism: This theory emphasizes that students actively build their understanding through interaction with learning material. According to constructivism, students' understanding is influenced by prior knowledge, individual perceptions, and the meaning they construct themselves. A well-known theory within constructivism is Piaget's cognitive development theory (1952), which explains how children build their understanding of the world around them through structured developmental stages. An important concept in this theory is the zone of actual development and the zone of proximal development, which refers to the gap between the abilities an individual can perform independently and the potential development that can be achieved with help or collaboration from others (Vygotsky, L. S., 1978). Selain hal itu, dalam hal pemahaman siswa terhadap materi, perlu dipahami pentingnya penemuan dan konstruksi pengetahuan oleh siswa melalui interaksi aktif dengan materi pembelajaran

As stated by Bruner, J. S. (1961), Bruner proposed that students are more active in building their understanding through exploration, manipulation, and interpretation of information. Bruner's theory emphasizes that learning is more effective when students are actively engaged in a "discovery process" involving investigation, organization, and application of new concepts.

Another theory is meaningful learning theory, which emphasizes the importance of connecting new knowledge with existing knowledge in students' minds. Ausubel argued that effective learning occurs when students can relate new information to concepts already present in their cognitive structure. Organizing and integrating new knowledge into existing frameworks will strengthen students' understanding and retention (Ausubel, D. P., 1968).

Still related to this topic, an article by Jonassen (1991) discusses the comparison between objectivism and constructivism and questions whether a new philosophical paradigm is needed in

education. In this article, Jonassen highlights the differences between objectivist and constructivist approaches to learning.

- b. Cognitive Theory: This theory focuses on the processing of information in students' minds. According to cognitive theory, students have limited cognitive capacity, and understanding occurs through stages of information processing such as attention, encoding, storage, and retrieval of information. In cognitive theory, there is a concept known as the Information Processing Model (Atkinson & Shiffrin, 1968). This theory proposes that information processing in the human mind involves three stages: attention (input of information), encoding (coding information into a storable form), and storage..

Next, there is the Information Processing Theory (Craik & Lockhart, 1972): This theory emphasizes that understanding depends on the depth of information processing. Deeper processing (e.g., considering the meaning and relationships of concepts) leads to better understanding compared to shallow processing (e.g., focusing on physical features).

Another theory is Schema Theory (Rumelhart & Norman, 1978): This theory suggests that individuals use cognitive schemas (mental structures that organize knowledge) to process new information. Schemas influence understanding by aiding in the selection, interpretation, and organization of information. Finally, there is the Parallel Distributed Processing Theory (McClelland & Rumelhart, 1986): This theory describes information processing in the mind as a parallel distributed network composed of simple processing units that are interconnected. Information is processed simultaneously through many units, and understanding occurs through the activation and spread of activation patterns across the network.

- c. Problem-Based Learning Theory: This approach involves assigning tasks or problems that challenge students to apply their knowledge and skills in real-world contexts. In this theory, students' understanding develops through active problem-solving, reflection, and experiential learning.

In Problem-Based Learning Theory, there is the Constructivist Theory (Vygotsky, 1978): This theory suggests that learning occurs through the construction of knowledge by students through interaction with the environment and others. In the context of problem-based learning, students are actively engaged in problem-solving, building their own understanding, and expanding their knowledge through interaction with challenging tasks or problems.

Next, there is Critical Thinking Skills Theory (Ennis, 1989): This theory focuses on the development of critical thinking skills, such as the ability to analyze, evaluate, and solve problems. In problem-

based learning, students engage in critical thinking processes to identify problems, formulate problem-solving strategies, and evaluate the solutions produced.

This theory aligns with Knowledge Construction Theory (Jonassen, 1991): This theory emphasizes that learning occurs through the construction of knowledge by students through interaction with authentic tasks or problems. In problem-based learning, students construct new knowledge by building connections between prior knowledge and the context of the problem they are facing. Lastly, there is Social Learning Theory, proposed by Albert Bandura in 1977, which emphasizes the significant role of social interaction in learning and individual development.

- d. Social Cognitive Theory: This theory emphasizes the important role of social interaction in students' understanding. Students learn through observation, modeling, and interaction with others. The concept involves learning through shared experiences (social co-construction of knowledge).

In Social Cognitive Theory, there is the Reinforcement Theory (Skinner, 1953): This theory states that a person's behavior is influenced by the reinforcement or punishment they receive in response to that behavior. In Social Cognitive Theory, the concept of reinforcement is applied in the context of learning and self-development. Positive reinforcement can enhance motivation and an individual's ability to learn new behaviors, while negative reinforcement can reduce the likelihood of the behavior reoccurring.

- e. Next is Social Cognitive Theory (Bandura, 1986): This theory, developed by Albert Bandura, emphasizes the important role of cognitive processes in behavior formation. Social Cognitive Theory asserts that individuals learn through observing and modeling the behavior of others. Additionally, cognitive factors such as self-beliefs, expectations, and self-evaluation also influence how individuals regulate and direct their behavior.

Lastly, there is Social Understanding Theory (Hogg & Vaughan, 2008): This theory emphasizes an individual's understanding of the social world and its impact on behavior. In Social Understanding Theory, individuals are seen as "social scientists" who seek to understand others, social groups, and social situations. Individuals acquire social knowledge through observation, interaction, and cognitive processes involved in understanding beliefs, values, and social norms.

Student Engagement Theory: This theory highlights the importance of actively engaging students in the learning process to enhance their understanding. Factors such as motivation, interest,

direct experience, and emotional involvement affect the level of students' understanding.

Related to Student Engagement Theory, there is Self-Determination Theory (Deci & Ryan, 1985): This theory emphasizes the importance of autonomy in motivation and student engagement. According to this theory, when students feel they have autonomy in learning and can satisfy basic needs such as competence and social connection, they will be more motivated and engaged in the learning process. Educators can enhance student engagement by offering choices, providing supportive feedback, and creating an environment that supports the development of autonomy.

Next is Social Connection Theory (Wentzel, 1998): This theory highlights the role of social connections in student engagement. According to this theory, positive and supportive social relationships with teachers and classmates can enhance students' motivation and engagement in learning. Social connections include emotional support, academic support, and opportunities for collaboration and interaction with others. Educators can improve student engagement by building positive relationships, creating an inclusive classroom climate, and facilitating beneficial social interactions.

Lastly, there is Achievement Goal Theory (Ames, 1992): This theory emphasizes the role of learning goals in student engagement. Achievement Goal Theory identifies two relevant types of goals: performance goals and learning goals. Performance goals focus on achieving good results or avoiding failure, while learning goals focus on enhancing understanding, applying knowledge, and developing skills. Students with learning goals tend to be more motivated and engaged. Educators can enhance student engagement by helping students understand the importance of meaningful learning goals and providing feedback that supports the development of these goals..

- f. Multiple Intelligences (MI) Theory: This theory proposes that students have diverse and distinct types of intelligence, such as verbal-linguistic, logical-mathematical, kinesthetic, spatial-visual, musical, interpersonal, intrapersonal, and others. In the context of student understanding, MI theory acknowledges individual variations in how students process and comprehend information.

The Multiple Intelligences Theory is indeed well-known, with one of the most prominent being Gardner's Theory of Multiple Intelligences (Gardner, 1983): This theory, proposed by Howard Gardner, states that intelligence is not limited to just verbal and logical-mathematical abilities, but includes a variety of independent types of intelligence. According to Gardner, there are eight types of intelligence: verbal-linguistic, logical-mathematical, spatial-visual,

musical, kinesthetic, interpersonal, intrapersonal, and naturalistic. Each individual possesses varying levels of these types of intelligence.

Next is Emotional Intelligence Theory (Salovey & Mayer, 1990): This theory emphasizes the importance of emotional intelligence in individual success. According to this theory, emotional intelligence includes the ability to recognize, understand, manage, and express emotions effectively, as well as the ability to interact effectively with others. Emotional intelligence involves aspects such as self-awareness, emotional regulation, self-motivation, empathy, and social skills.

Lastly, there is the Theory of Intrapersonal and Interpersonal Intelligence (Gardner, 1983): Within the framework of Multiple Intelligences Theory, Gardner identifies intrapersonal and interpersonal intelligence as two important types of intelligence. Intrapersonal intelligence relates to self-understanding, introspection, and personal emotional regulation. Meanwhile, interpersonal intelligence pertains to the ability to understand and interact effectively with others, having empathy, and working effectively in groups.

5. Visually Impaired Students

Law No. 20 of 2003 on the National Education System and Law No. 8 of 2016 on Persons with Disabilities state that education is a right for all citizens, not only for the non-disabled but also for persons with disabilities. However, the percentage of persons with disabilities who attend school is still very low.

The National Socio-Economic Survey (SUSENAS) conducted in 2018 found that there were 55,708,205 persons with disabilities in the school-age group (7-18 years). Meanwhile, approximately 1.6 million children with disabilities are receiving inclusive education. This indicates that more than 90% of persons with disabilities have not yet received formal education (Saleh, 2019).

One of the groups of persons with disabilities is the visually impaired. According to Praptaningrum (2020), a visually impaired person is someone whose sense of sight does not function normally, who cannot see at all (total blindness), or who can only perceive light (severely impaired vision). Indonesia ranks fourth among the five countries with the highest number of people experiencing visual impairments, following China, India, Pakistan, and the United States. The Center for Data and Information of the Indonesian Ministry of Health (2018) reports that 0.49% of the global population of 7.33 billion is affected by blindness, with 0.55% of those with visual impairments being women (www.pusdatin.kemendes.go.id, 2018).

C. Research Methodology

1. Research Location

The research setting is the location where the research is conducted. In this case, it is conducted at SLBN 1 Bantul Yogyakarta. SLBN 1 Bantul Yogyakarta has a department for visually impaired students, 9 teachers, and a total of 17 students, consisting of 11 male students and 6 female students. This research aims to explore the impact of online learning on the understanding of learning materials by visually impaired students at SLBN 1 Bantul. To achieve this goal, the research will use a qualitative approach.

2. Data and Data Sources

The data sources used in this research come from people, events, interview results, and documents. According to Arikunto (2013), data sources are the subjects from which data can be obtained. Therefore, in terms of data sources, there are two types: primary data sources and secondary data sources.

2. Data Collection Procedures**

The data collection procedures for this research are carried out using three methods: 1) Observation, 2) Interviews, and 3) Documentation..

- a. Observation, involves closely observing the research site, either openly or covertly. This observation is conducted to gain a real understanding of various aspects related to the research topic, specifically focusing on the conditions of online learning at the research location.
- b. Interviews, are conducted to obtain clearer data and serve as a method for confirming the results of the observations. Interviews are carried out flexibly to avoid disrupting the activities of the interviewees. During the interview process, the researcher uses an interview guide to make the interviews more systematic and structured..
- c. Documentation, is used to reinforce or challenge the data obtained from observations and interviews. This includes both printed and digital documentation (files), as well as online data available to the researcher.

3. Data Analysis

Data Analysis in qualitative research involves working with data to organize, sort, and manage it into manageable units. This process includes identifying references, determining what is significant and what has been learned, and deciding what can be communicated to others (Moleong, 2012)..

Miles and Huberman (1992) outlined three stages that must be carried out in analyzing qualitative research data, which are: (1) data reduction; (2) data display; and (3) conclusion drawing and verification.

4. Data Validity Checking

The data obtained during the research process are then tested for validity. The methods used to ensure the validity of the data include the following: Uji kredibilitas, yaitu dengan cara memperpanjang waktu penelitian dan meningkatkan ketelitian dalam melakukan penelitian. Hal ini digunakan untuk memastikan bahwa data yang diperoleh adalah benar-benar valid dan layak untuk dianalisis lebih lanjut.

- a. Transferability Testing: This is done by comparing the data obtained with relevant references. This ensures that the data collected in the study aligns with theoretical frameworks and is acceptable to the broader community.
- b. Dependability Testing: This involves presenting the research data to a second, competent, and relevant party for evaluation or assessment. This helps ensure that the data obtained in the study is not only valid but also consistent if examined by other researchers..

D. Research Findings and Discussion

1. Discussion of the Visually Impaired Students' Understanding of the Material

This study involved the visually impaired teachers from SLB N 1 Bantul as the primary participants. The data collected reflects the active and constructive participation of all involved parties, aiming to provide a holistic view of the visually impaired students' experiences and understanding of online learning, according to the teachers. With dedication, the researcher strives to present accurate and meaningful findings, which are expected to contribute to the development of inclusive teaching methods and have a positive impact on visually impaired students at SLB N 1 Bantul..

Data pertama yang akan disampaikan adalah tentang pemahaman siswa tuna netra terhadap pelajaran sosial secara umum. Berkaitan dengan hal itu seorang guru menyatakan sebagai berikut saat diwawancarai oleh peneliti. “Di awal siswa merasa kesulitan, untuk menangani hal tersebut para guru mendatangi rumah siswa untuk membantu siswa memahami apa yang disampaikan oleh guru. Setelah terbiasa, siswa menjadi mudah untuk memahami materi pelajaran sosial secara umum” (W: Guru, 2023).

Pengalaman mendatangi rumah siswa juga dapat membantu para guru untuk memahami tantangan dan kebutuhan individual siswa secara lebih mendalam, sehingga pendekatan pembelajaran dapat disesuaikan dengan karakteristik dan gaya belajar masing-masing siswa. Selain itu, membina hubungan yang erat antara guru dan siswa melalui kunjungan ke rumah juga dapat membangun kepercayaan diri dan motivasi belajar siswa. Dengan perjuangan awal ini, para guru telah memberikan kontribusi besar dalam menciptakan lingkungan pembelajaran yang inklusif dan memberdayakan siswa tunanetra untuk berhasil dalam pembelajaran daring. Hal tersebut sesuai dengan teori Vesta dan Thomson (1970) dalam Rusman (2017) yang menyatakan bahwa belajar adalah perubahan perilaku yang relatif menetap sebagai hasil dari pengalaman.

Selanjutnya berdasarkan hasil penelitian menunjukkan bahwasanya tingkat pemahaman mereka terhadap materi pembelajaran meningkat secara signifikan setelah terlibat dalam pembelajaran daring. Awalnya, para siswa merasa kesulitan menghadapi pembelajaran daring, namun dengan adanya dukungan aktif dari para guru yang datang ke rumah siswa dan bantuan dari orang tua, siswa-siswa tersebut berhasil mengatasi tantangan tersebut. Mereka menunjukkan peningkatan pemahaman konsep-konsep sosial melalui pendengaran dan kemampuan penalaran yang kuat.

Hal ini menunjukkan bahwa pembelajaran daring mampu memberikan peluang bagi siswa tuna netra untuk mengembangkan pemahaman mereka secara lebih baik dan mampu mengembangkan potensi siswa secara optimal. Hal itu selaras dengan teori yang menyatakan bahwa pembelajaran merupakan sebuah proses memfasilitasi siswa untuk dapat memiliki kompetensi tertentu serta mengembangkan potensinya secara optimal (Ratumanan dan Rosmiati, 2019:22).

Selanjutnya, para siswa juga terbukti mampu mengidentifikasi koneksi dan hubungan antara berbagai elemen dalam materi pembelajaran sosial. Dengan menggunakan penalaran dan kemampuan untuk memposisikan diri dalam situasi sosial yang dipelajari, siswa tunanetra berhasil mengaitkan konsep-konsep tersebut ke dalam konteks kehidupan nyata. Selain itu, mereka juga mampu memahami konteks sosial, politik, dan ekonomi dari materi pelajaran sosial dengan memanfaatkan pendengaran dan mendapatkan dukungan tambahan dari berita yang terkait. Ini menunjukkan bahwa siswa tunanetra dapat mengatasi tantangan dan mengembangkan keterampilan analitis mereka untuk memahami konten pelajaran dengan lebih baik.

Hasil penelitian menunjukkan bahwa terlibat dalam pembelajaran daring telah menghasilkan peningkatan signifikan dalam tingkat pemahaman siswa tuna netra terhadap materi pembelajaran. Meskipun awalnya mereka mengalami kesulitan, adanya dukungan dari para guru yang datang ke rumah siswa dan partisipasi aktif orang tua membantu mereka mengatasi hambatan tersebut. Kemampuan mereka untuk menghadapi tantangan teknis dan berpartisipasi dalam lingkungan pembelajaran daring dengan dukungan yang memadai telah memberikan peluang bagi perkembangan pemahaman konsep-konsep sosial dan sains. Hal itu selaras dengan teori konstruktivisme ada teori yang terkenal dari Piaget, J. (1952) yaitu tentang teori perkembangan kognitif, menjelaskan bagaimana anak-anak membangun pemahaman mereka tentang dunia di sekitar mereka melalui tahapan perkembangan yang terstruktur.

2. Pembahasan tentang penerapan konsep dalam situasi nyata

Sebagaimana yang telah disampaikan sebelumnya, bahwa berdasarkan data-data yang diperoleh disimpulkan bahwa siswa tunanetra menunjukkan kemampuan yang baik dalam menerapkan konsep atau pengetahuan yang dipelajari dalam pembelajaran daring dalam situasi nyata. Mereka berhasil mengaitkan pengetahuan tersebut dengan praktik langsung, baik melalui

simulasi maupun studi kasus nyata. Dukungan dari guru dan lingkungan pembelajaran yang inklusif menjadi kunci dalam memfasilitasi siswa tunanetra untuk mengembangkan kemampuan ini, sehingga mereka dapat menghadapi berbagai tantangan pembelajaran dengan percaya diri dan kreatif. Meskipun ada beberapa potensi untuk meningkatkan kemampuan analisis dan aplikasi konsep, namun hasil temuan menunjukkan adanya progres yang positif dalam perkembangan pemahaman dan penerapan konsep-konsep pembelajaran.

Secara keseluruhan, hasil temuan menunjukkan progres positif dalam kemampuan siswa tunanetra dalam menerapkan konsep-konsep pembelajaran daring dalam situasi nyata. Dukungan dari guru, lingkungan pembelajaran yang inklusif, dan peran aktif orang tua berperan penting dalam memfasilitasi siswa untuk menghadapi tantangan pembelajaran dengan percaya diri, menghubungkan teori dengan praktik, dan meningkatkan kualitas pemahaman serta keterampilan berpikir kritis mereka. Pengalaman praktik langsung dan simulasi dalam pembelajaran menjadi sarana efektif untuk membantu siswa tunanetra mengaitkan pengetahuan dengan kehidupan nyata, memperkaya pengalaman belajar-mengajar mereka secara keseluruhan.

Berdasarkan hasil penelitian tersebut, ada beberapa pembahasan yang dapat disampaikan, yaitu yang pertama tentang penerapan konsep dalam situasi nyata. Dalam kerangka pembelajaran daring, siswa tunanetra menunjukkan kemampuan yang luar biasa dalam menerapkan konsep dan pengetahuan yang telah mereka pelajari dalam situasi nyata. Mereka mampu mengaitkan konsep-konsep tersebut dengan praktik langsung, baik melalui simulasi maupun studi kasus aktual. Hasil penelitian mencatat bahwa dukungan aktif dari guru dan lingkungan pembelajaran yang inklusif sangatlah penting dalam memfasilitasi siswa untuk mengembangkan kemampuan ini. Melalui peran penting ini, siswa tunanetra mampu menghadapi berbagai tantangan pembelajaran dengan percaya diri dan kreativitas yang luar biasa.

Kedua, kontribusi dalam diskusi. Temuan penelitian juga menyoroti partisipasi aktif siswa tunanetra dalam diskusi dan berbagi pendapat terkait materi pembelajaran daring. Mereka tidak hanya mampu mengajukan pertanyaan yang mendalam dan relevan, tetapi juga memperkaya diskusi dengan kontribusi ide dan pemikiran yang didasarkan pada pengalaman pribadi mereka. Dengan demikian, siswa tunanetra membawa perspektif unik yang memperluas cakupan pemahaman kelompok, menunjukkan tingkat pemahaman yang luar biasa terhadap materi.

Ketiga, tentang kemampuan identifikasi masalah dan aplikasi konsep. Hasil penelitian juga mengungkap kemampuan siswa tunanetra dalam mengidentifikasi masalah dalam situasi nyata dan menghubungkannya dengan konsep yang telah mereka pelajari. Dalam hal ini, kemampuan mereka dalam berpikir kritis dan menerapkan konsep-konsep tersebut dalam tugas atau proyek yang melibatkan pemecahan masalah menjadi poin penting. Siswa tunanetra mampu menghubungkan teori dengan praktik melalui analisis kasus nyata yang relevan, menunjukkan bahwa mereka memiliki fondasi pemahaman yang kuat.

Keempat, tentang peran guru, lingkungan pembelajaran, dan orang tua. Dalam konteks pengembangan kemampuan siswa tunanetra, peran guru sebagai fasilitator berperan penting. Dukungan guru dalam membimbing siswa untuk mengaitkan konsep-konsep dengan situasi nyata serta memberikan lingkungan pembelajaran yang inklusif telah memfasilitasi siswa untuk memperoleh rasa percaya diri dan kecakapan praktik. Selain itu, peran orang tua dalam mendukung proses pembelajaran, baik dalam memberikan dukungan teknis maupun dukungan moral, juga memiliki dampak yang signifikan dalam pengembangan kemampuan siswa.

Kelima, yaitu tentang implikasi. Secara keseluruhan, hasil temuan ini menunjukkan bahwa siswa tunanetra mampu secara efektif menerapkan konsep pembelajaran daring dalam situasi nyata. Dukungan dari guru, lingkungan pembelajaran yang inklusif, serta peran aktif orang tua telah berkontribusi dalam membentuk kemampuan praktik dan analisis mereka. Pengalaman langsung dan simulasi dalam pembelajaran telah membuktikan diri sebagai sarana yang efektif untuk membantu siswa tunanetra mengaitkan pengetahuan dengan kehidupan sehari-hari. Implikasi temuan ini dapat merangsang pengembangan pendekatan pembelajaran yang lebih inklusif dan interaktif, dengan mengoptimalkan peran guru dan dukungan lingkungan, guna memfasilitasi kemampuan siswa untuk menerapkan konsep pembelajaran dalam situasi nyata dengan lebih baik.

3. Pembahasan tentang kemajuan akademik

Ada teori yang menyatakan bahwa media pembelajaran adalah semua bentuk peralatan fisik yang didesain secara terencana untuk menyampaikan informasi dan membangun interaksi (Yaumi, 2019). Ada juga teori lain yang menyatakan bahwa media pembelajaran merupakan media yang digunakan sebagai alat dan bahan kegiatan pembelajaran (Daryanto, 2016). Teori tersebut menunjukkan bahwa media pembelajaran adalah sebuah alat yang membantu proses pembelajaran. Media pembelajaran dalam pembelajaran daring tentu saja harus disesuaikan agar dapat digunakan oleh siswa terutama dalam siswa tunanetra dan dalam penelitian ini membuktikan bahwa media pembelajaran dalam pembelajaran daring telah memberikan dampak yang positif dalam pemahaman siswa dan membantu kemajuan akademik siswa.

Berdasarkan data-data yang diperoleh, dapat disimpulkan bahwa pembelajaran daring memberikan dampak positif pada kemajuan akademik siswa tunanetra. Secara keseluruhan, siswa menunjukkan peningkatan dalam pemahaman konsep dan materi pembelajaran, serta kemajuan dalam pencapaian nilai atau skor ujian. Meskipun peningkatan tersebut belum seoptimal pembelajaran tatap muka, namun progres yang positif ini mencerminkan efektivitas dari pendekatan pembelajaran daring dalam meningkatkan pemahaman dan penerapan materi. Dukungan dari guru dan lingkungan pembelajaran yang inklusif menjadi kunci dalam memfasilitasi kemajuan akademik siswa tunanetra dalam situasi pembelajaran yang berbeda.

Selain itu, hasil temuan juga menunjukkan variasi dalam hasil evaluasi siswa sebelum dan setelah terlibat dalam pembelajaran daring. Beberapa siswa menunjukkan peningkatan nilai, sementara beberapa siswa lainnya mengalami penurunan nilai. Hal ini menekankan pentingnya memberikan perhatian khusus dan dukungan individu bagi siswa tunanetra dalam menghadapi tantangan pembelajaran. Kerja sama antara guru, orang tua, dan siswa tunanetra menjadi kunci dalam mencapai hasil pembelajaran yang lebih baik dan konsisten.

Selain itu, pembelajaran daring juga memberikan dampak pada tingkat partisipasi siswa dalam kelas atau kegiatan akademik. Meskipun terdapat peningkatan partisipasi, hasilnya masih belum mencapai tingkat maksimal. Dukungan dan motivasi terus-menerus dari guru dan lingkungan pembelajaran yang inklusif diharapkan dapat meningkatkan partisipasi siswa secara keseluruhan, sehingga mencapai tingkat partisipasi yang lebih optimal dan berkelanjutan dalam kegiatan pembelajaran dan akademik.

Secara keseluruhan, hasil temuan menunjukkan bahwa pembelajaran daring memberikan dampak positif pada kemajuan akademik siswa tunanetra. Peningkatan pemahaman, partisipasi, dan keterampilan kritis menjadi indikasi efektivitas dari pendekatan pembelajaran daring. Meskipun ada beberapa tantangan dan peningkatan belum seoptimal pembelajaran tatap muka, namun dengan dukungan yang tepat dari guru dan lingkungan pembelajaran yang inklusif, siswa tunanetra dapat terus menghadapi tantangan pembelajaran dengan percaya diri dan mencapai hasil pembelajaran yang lebih baik. Perbaikan dan pengoptimalan strategi pembelajaran daring diharapkan dapat meningkatkan efektivitas pembelajaran dan kemajuan akademik siswa tunanetra.

Merujuk semua paparan tersebut, ada beberapa poin yang dapat disampaikan, yaitu yang pertama adalah tentang peningkatan kemajuan akademik. Hasil penelitian ini memberikan bukti kuat bahwa pembelajaran daring memberikan dampak positif pada kemajuan akademik siswa tunanetra. Meskipun peningkatan tersebut mungkin belum setinggi pembelajaran tatap muka, namun keseluruhan siswa menunjukkan peningkatan dalam pemahaman konsep dan materi pembelajaran. Peningkatan ini juga tercermin dalam pencapaian nilai atau skor ujian mereka. Temuan ini menegaskan efektivitas pendekatan pembelajaran daring dalam merangsang kemajuan akademik siswa tunanetra dalam situasi pembelajaran yang berbeda.

Kedua tentang peran guru dan lingkungan inklusif. Dalam konteks kemajuan akademik siswa tunanetra, peran guru dan lingkungan pembelajaran inklusif memainkan peran yang penting. Dukungan dari guru dalam memberikan bimbingan, materi yang mudah diakses, serta interaksi terbuka dengan siswa sangat berpengaruh dalam meningkatkan pemahaman dan pencapaian nilai. Lingkungan pembelajaran yang inklusif, yang mendorong partisipasi dan dukungan teman sekelas, juga memberikan kontribusi penting dalam menciptakan kondisi yang mendukung kemajuan akademik yang lebih baik.

Ketiga tentang variasi dalam evaluasi hasil. Hasil temuan mengungkap variasi dalam hasil evaluasi siswa sebelum dan setelah terlibat dalam

pembelajaran daring. Siswa menunjukkan peningkatan nilai, namun beberapa siswa mengalami penurunan nilai. Variasi ini menekankan pentingnya pendekatan individual dan pengenalan berbagai gaya belajar siswa tunanetra. Upaya untuk memberikan dukungan yang khusus dan tepat sasaran menjadi penting dalam mengatasi tantangan dan memaksimalkan potensi siswa.

Keempat, tentang partisipasi dan dampak pada kegiatan akademik. Selain dampak pada kemajuan akademik, pembelajaran daring juga memiliki implikasi pada partisipasi siswa dalam kelas dan kegiatan akademik. Meskipun terjadi peningkatan partisipasi, hasilnya masih belum mencapai tingkat yang optimal. Dorongan dan dukungan terus-menerus dari guru serta lingkungan pembelajaran yang inklusif sangatlah penting dalam memacu partisipasi siswa secara lebih aktif dan konsisten dalam berbagai kegiatan pembelajaran.

Kelima, tentang tantangan dan potensi perbaikan. Secara keseluruhan, hasil penelitian ini menunjukkan bahwa pembelajaran daring memberikan dampak positif yang signifikan pada kemajuan akademik siswa tunanetra. Peningkatan pemahaman, partisipasi, dan keterampilan kritis menjadi bukti nyata akan efektivitas pendekatan ini. Meskipun ada tantangan dalam mencapai peningkatan setinggi pembelajaran tatap muka, dukungan yang tepat dari guru dan lingkungan pembelajaran inklusif dapat membantu siswa tunanetra menghadapi tantangan dengan percaya diri dan mencapai hasil pembelajaran yang lebih baik. Dalam upaya terus memperbaiki strategi pembelajaran daring, perbaikan dan pengoptimalan lebih lanjut diharapkan dapat diterapkan untuk meningkatkan efektivitas pembelajaran dan mencapai kemajuan akademik siswa tunanetra secara lebih optimal.

E. Kesimpulan

1. Pembelajaran daring di SLB N 1 Bantul memiliki dampak positif terhadap tingkat pemahaman siswa tuna netra terhadap konsep-konsep sosial dan sains. Dukungan aktif dari guru, orang tua, serta kemampuan adaptasi siswa menjadi kunci dalam pencapaian hasil yang menggembirakan ini.
2. Melalui pembelajaran daring, siswa tuna netra SLB N 1 Bantul mampu secara efektif menerapkan konsep pembelajaran daring dalam situasi nyata. Dukungan dari guru, lingkungan pembelajaran yang inklusif, serta peran aktif orang tua telah berkontribusi dalam membentuk kemampuan praktik dan analisis mereka.
3. Pembelajaran daring memberikan dampak positif yang signifikan pada kemajuan akademik siswa tunanetra. Peningkatan pemahaman, partisipasi, dan keterampilan kritis menjadi bukti nyata akan efektivitas pendekatan ini. Meskipun ada tantangan dalam mencapai peningkatan setinggi pembelajaran tatap muka, dukungan yang tepat dari guru dan lingkungan pembelajaran inklusif dapat membantu siswa tunanetra menghadapi tantangan dengan percaya diri dan mencapai hasil pembelajaran yang lebih baik.

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