

Diverse Experiences with Educational Aids and Practicum Equipment: Perspective of Nalanda Buddhist College's Students

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ABSTRACT

Educational aids and practicum equipment are critical for providing quality instruction. This study aims to examine the experiences of second-year students pursuing a degree in Buddhist Religious Education and taking the Learning Media Course. The researcher's objective is to comprehend the influence of educational aids and practicum equipment on the learning process. This study utilized a case study methodology, specifically employing the classroom research approach, to gather data from 36 student forum posts on Google Classroom. The students created these posts after participating in asynchronous lectures that included a teaching module and three audio recordings. The researcher employed a qualitative descriptive analysis to present the primary thematic discoveries derived from the data. The data reveals that students had diverse encounters with educational aids and practicum equipment. Nonetheless, every student has demonstrated the ability to contemplate their learning process by using these instructional tools. The findings of this study offer a profound understanding of how the use of instructional media impacts students' learning encounters within the context of Buddhist education. This study has the potential to enhance the creation of more effective pedagogical approaches focused on student experiences.

Keywords:

educational aids; practicum equipment; learning media; instructional media; Buddhist education

INTRODUCTION

Prior studies have shown that the use of educational tools and practicum equipment has a positive impact on educational outcomes (Irwansyah, 2021; Tazkia & Suherman, 2016; Tri Anjani et al., 2022). Given appropriate instructional activities, learning aids, and practicum tools, students can develop links between theoretical concepts and practical applications in their everyday lives (Chernetsov et al., 2022; Hasanah Lubis et al., 2023). Collaboration among students is necessary while using some instructional resources. This collaboration unquestionably improves social interaction and cooperation within the learning context. Learning aids and practicum equipment can support instructional offerings across various fields, such as science, mathematics, vocational training, art, physical education, and social service provision (Goldberg H D Sinaga et al., 2023). When designing instructional activities that integrate media, educators must carefully consider the learning needs and preferences of students. The goal is to ensure that the use of these technologies effectively enables the achievement of optimal educational outcomes. Gagné has emphasized that achieving optimal learning quality can be accomplished by giving priority to active student engagement, guaranteeing sufficient facilities and infrastructure, and utilizing suitable learning mediums (Firda & Khoirul Anam, 2022; Gagné, 2013).

Merrill emphasized the need to use appropriate educational resources to improve teaching activities (Truong et al., 2019). These educational resources should also facilitate active involvement, cultivate inquisitiveness, and motivate students to actively engage in the process of learning. Students enrolled in the Learning Media course at STAB Nalanda participate in learning activities that specifically center around the design and advancement of educational support materials, as well as the application of practical tools. Before creating instructional activities, the students are initially encouraged to participate in reflective thinking over their learning (Kholid et al., 2020). This preliminary study gathers learners' opinions by examining their thoughts on using instructional aids and practicum equipment prior to enrolling in college.

The goal of this study is to investigate how students, as they move from elementary to high school, perceive the value and efficacy of educational teaching aids and practicum equipment.

Learning aids and practicum equipment based on Kolb's experiential concepts can be used in learning environments with specific contexts and subjects (Kolb & Kolb, 2009; The & Latifah, 2019). Usually, these topics relating to everyday life act as examples of the theories being studied. The intent of this study is to find out how the research participants see the usefulness of the learning tool connected to the knowledge they gain. Participating individuals have earned degrees from a variety of schools, including universities, and this study intends to compile their diverse perspectives. Various viewpoints will help researchers better understand the effectiveness of various teaching tools. Instructional aids and practical equipment have an impact on students' learning experiences; this ongoing exploratory study seeks to analyze data holistically and gather more information to gain a better understanding of this.

METHOD

This classroom case-study research focused on the Learning Media course at STAB Nalanda, involving 37 of 46 students. Purposive sampling was used to target the 37 students who completed the reflection task. Students studied the online program and podcasts, using PDFs or Google Classroom (Look at Figure 1 and Figure 2). The research follows Gagné's technique of using various instructional media for different learning styles (Firda & Khoirul Anam, 2022; Gagné, 2013). Students were asked to write a Google Classroom reflection after reading educational materials or podcasts, sharing their experiences using learning aids or practicum equipment, and providing feedback and opinions in the comments.



Figure 1. Learning Module

Google Classroom forum postings were analyzed using QDA Miner, a tool for quick keyword translation and word cloud production, identifying subthemes, and creating a codebook for systematic coding and topic analysis. The study used QDA Miner to compare keyword frequencies and word clouds, cross-referencing multiple sources, and providing participants with brief descriptions of the data to validate interpretations (LaPan, 2013). This multiple analysis ensured data accuracy and accuracy in qualitative research. This study was more extensive because it used frequency counting, word cloud construction, and theme coding.

This study employed multiple data sources to validate and reinforce our findings through a multidimensional approach. Multiple methods allow for data analysis from various perspectives, resulting in a more comprehensive and dependable analysis. Ethics were followed during the investigation. To ensure

participant confidentiality, we anonymized the data and followed human subject ethics in our research methods. The study follows American Psychological Association ethical guidelines, confirming its integrity and validity (APA, 2019).

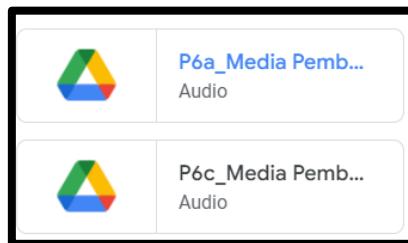


Figure 2. Podcasts of Learning Material

RESULTS AND DISCUSSION

This section includes the discussion, the coding inquiry's findings about learning aids and practicum equipment, and an explanation of the coding method.

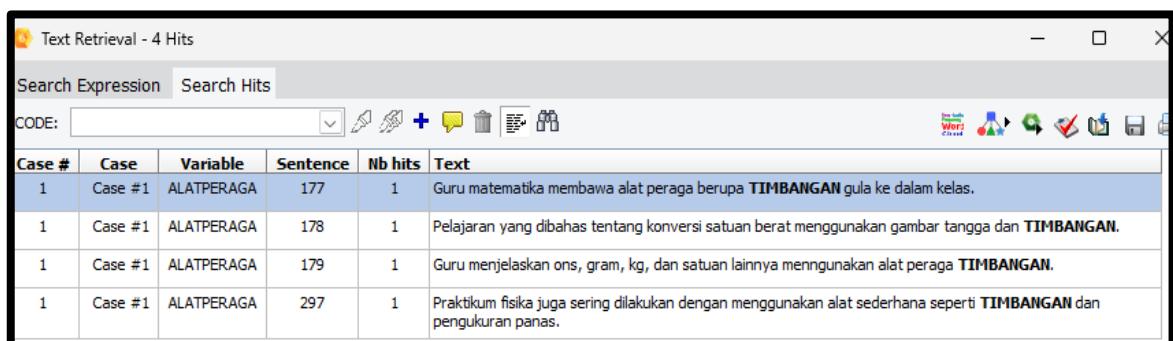
Coding Method

The QDA Miner data analysis system processed 37 respondents' postings, identifying the top 10 words. The top ten words were "teacher," "using," "explaining," "pulling," "making," "seeing," "teaching," and "showing." The word "organ" refers to anatomical models, demonstrating their pedagogical value. The study used keyword mapping and frequency analysis to identify data-coding themes, which were then divided into learning aids and practicum equipment sub-codes.

Learning Aids and Practicum Equipment

The global learning medium, which includes maps and maps, significantly influenced respondents' experiences, since it showed the Earth's geographical locations, how Earth rotates, and how things are situated. Interactive digital maps, instead, modernized the modes of teaching by creating an interactive display and local maps that became interesting for students. Models are used to teach the student about anatomy and physiology to give him an insight into the significant constituting parts like bones, layers of the skin, structure of the brain, and the digestive system.

Mathematics education emphasizes spatial models for calculating volumes, physics for gravity and vertical motion, and periodic tables for chemistry. Scales are crucial in scientific training, where they contribute by teaching unit conversion and weight measurement (Look at Figure 3). Other everyday products used in practical learning include stamps, invoices, and seals. The teachers themselves produce lesson-specific instruments, such as bamboo slats and bottle caps, for counting exercises and physics using balls, ropes, and torches. It combines a ball and an inclined plane for Newton's Law of the inclined plane to enable students to understand motion and force.



Case #	Case	Variable	Sentence	Nb hits	Text
1	Case #1	ALATPERAGA	177	1	Guru matematika membawa alat peraga berupa TIMBANGAN gula ke dalam kelas.
1	Case #1	ALATPERAGA	178	1	Pelajaran yang dibahas tentang konversi satuan berat menggunakan gambar tangga dan TIMBANGAN .
1	Case #1	ALATPERAGA	179	1	Guru menjelaskan ons, gram, kg, dan satuan lainnya menggunakan alat peraga TIMBANGAN .
1	Case #1	ALATPERAGA	297	1	Praktikum fisika juga sering dilakukan dengan menggunakan alat sederhana seperti TIMBANGAN dan pengukuran panas.

Figure 3. Text Retrieval Data Coded as Scale

This research demonstrates the diversity of teaching materials and their significance in making education even more valuable. Globes and maps, for geography, and anatomical models, for biology, apply abstract notions to real-world problems. Though scantily utilized, interactive and digital tools prove to hold great promise in modern teaching. The teaching tools are made interesting, practical, and develop student outcomes through experiential learning. These are essential tools in applying the theory of deepening cognition and improving talents across all disciplines and levels of study. Critical tools are always identified as what participants feel are most important.

The microscope was the most often mentioned practical tool in the examination; the significance of the biology lesson is proven just through this. Students examined microscopes of fish cells, fibers of leaves, microorganisms, and bacteria. These insights enable students to explore the essence of biology, along with cell structure and processes of life. By teaching kids about the tiny parts of living things and stuff around us, microscopes help them see how varied and complex life is. They can be used to show kids how cells function and how complex life forms are. Hands-on learning makes hard-to-get biology ideas easier to grasp. In teaching chemistry, teachers showed how to use tiny scopes and other hands-on tools. Doing tests and watching chemical changes up close need this equipment. Teachers used these tools to see how things stick to magnets, helping kids understand magnetism and how it works. They also taught how to find your way using north, south, east, west, and how to use a compass. Chemical tests often show reactions, heat shifts, and color shifts. Though the specific tools weren't named, the teachers emphasized that doing these experiments is key to learning about chemicals. These practical tasks let students grasp tricky chemical ideas and build sharp thinking and problem-solving skills.

Participants detailed the electronic devices used in their classes. Basic electronics, which combines theory and practice, requires the above equipment and resources. The equipment includes soldering tools for practicing electronic component connections, electrical source generators, and electronic circuit assembly and understanding tools. These practical tasks teach students about electricity and electronics. Active participation in practical projects helps students understand electronics concepts, develop technical skills, and gain confidence in handling electronic equipment. This practical knowledge is very useful for electronics and electrical engineering students.

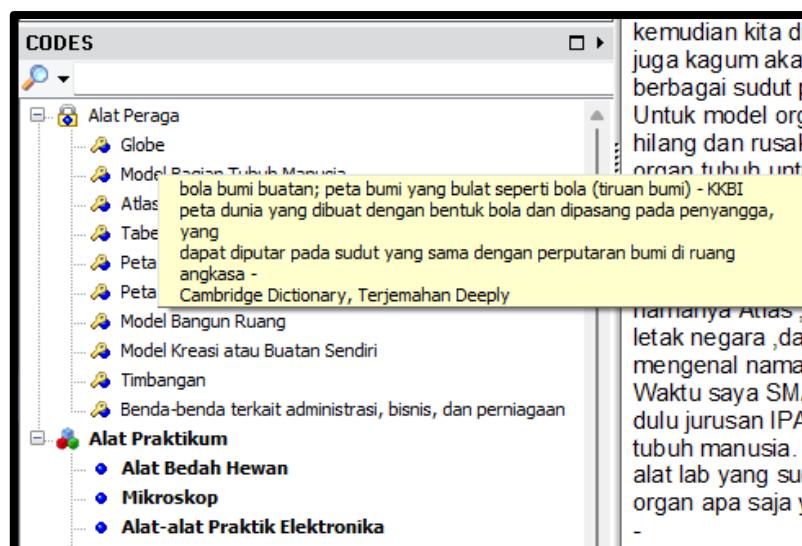


Figure 4. Code Tree and How to Retrieve Coding

Vocational school respondents used specific practical equipment for their studies. Students studying machinery used different machines to learn their functions. Practical experiences teach students how to operate and maintain machinery in industrial settings, making them crucial for vocational training. A nurse vocational student used a tensimeter to monitor blood pressure. Healthcare students need this equipment to properly monitor and assess patients' vital signs. Practical training using medical tools prepares students for clinical settings and patient care.

Chemistry and biology lab respondents employed numerous tools for practical training but did not always specify them. Chemistry labs use several instruments to study chemical reactions, temperature changes, and color changes. These activities teach students about chemicals and chemical reactions. A participant in Biology's class must employ bird dissection tools to study avian anatomy and physiology. Dissecting specimens lets pupils see living animals' interior anatomy and physiology. This practical approach helps them understand biological systems and processes.

Practice tools are used in sports and artistic fields as well as science and vocational fields. A participant described using volleyball in physical education, emphasizing the need for physical education tools. Sports equipment improves pupils' physical fitness, teamwork, and game rules and methods. Participants reported camera practice without specifying other equipment in the vocational sector of photography. Photography education relies on cameras to teach composition, exposure, and other technical skills. Practical camera experience helps students improve their artistic and technical photography.

This study highlights the variety of practicum tools and their importance in improving education. Microscopes, chemical equipment, electronics, and vocational training tools offer practical study in many courses. Practicum tools help students understand theoretical topics and learn crucial skills by applying them. These technologies give students the skills and information to solve real-world problems and find jobs in their fields, making them vital to education.

DISCUSSION

The study focuses on the use of aids and practical tools in learning to stress the importance of problem-solving, active participation, and experience. Globes, maps, and atlases, coupled with anatomical models, are some of the tools used to help learners conceptualize visually, deal with content and solve problems. They encourage inquiry and discovery to enhance knowledge of the subject. The theoretical framework of Vygotsky stresses constructivism, emphasizing social contact and sharing experience (Newman & Latifi, 2021). Experiential Learning Theory by Kolb (Datta, 2023; Kolb & Kolb, 2009) creates direct experience through practical aids such as the microscope, chemistry laboratory apparatus, and vocational training equipment. Learning by Doing is a concept developed by John Dewey himself, which introduces the concept of experiential learning by doing and using one's hands to learn (Hasbullah, 2020; Williams, 2017). Gagne's Nine Events of Instruction is a theoretical framework with one of its key statements being organizing learning events effectively, and these events include the tools in questions, such as globes and maps, learning by visuals aids and hands-on tools (Firda & Khoirul Anam, 2022; Gagné, 2013). The research evidence shows that many pieces of learning equipment and approaches facilitate a few learning theories.

CONCLUSION

This study emphasizes learning using various instructional aids and practical instruments in the learning environment. Globes, maps, and digital tools are examples of such materials that help to bridge the theoretical and practical learning divide. The educational theories include Merrill's Principles of Instructional Design, Vygotsky's Constructivist Theory of Learning, Kolb's Experiential Learning Theory, Dewey's Learning by Doing, and Gagne's Nine Events of Instruction. The study stressed the need for concretizing abstract ideas, promoting comprehension, and developing analytical reasoning and problem-solving skills. It proposed that educators modify these technologies to provide more intriguing and effective learning experiences.

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CONFLICT OF INTEREST

There is no conflict of interest in this study. The students involved in the study have consented to participate in the study activities, and their opinions were used as part of this study. The research was conducted as part of the university's Tri dharma activities, and the researcher funded it himself.

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Hery Yanto The   is an instructional designer and a faculty member at STAB Nalanda since 2023. Prior to joining Nalanda, Hery taught in China at the Indonesian Language Department, Zhejiang Yuexiu University. While teaching in China, Hery also actively conducted research in the field of teaching Indonesian to foreign speakers, and he became a language and cultural ambassador to introduce Indonesia to Chinese students. In addition to China, Hery had also worked as an interpreter, instructional design research assistant, and technological support for English teacher training during her doctoral studies at the University of Hawaii at Manoa. Hery's research interests include learning design, second language learning, and Chinese literature and culture. Hery lives in Kubu Raya, Kalimantan Barat, and teaches online from a distance. He is also active in the local community, teaching Chinese calligraphy.