



MANAGEMENT OF LEARNING FACILITIES ICT IN BLANGPIDIE PRIMARY SCHOOLS

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Abstract

The evolution of technology in the digital era significantly impacts various aspects of life, including the field of education. The use of Information and Communication Technology (ICT) is crucial in the educational domain, particularly in facilitating learning activities in schools. ICT learning facilities play a vital role in streamlining the educational process, amidst high expectations placed on the educational sector. However, the education system faces numerous challenges that hinder the effective implementation of teaching and learning activities in schools. Among these challenges are inadequate educational support facilities, emphasizing the importance of teachers' ICT competencies. This research aims to explore the role of teachers in implementing ICT learning facility management in elementary schools within Blangpidie District, South Aceh Regency, and their use of ICT. Employing a descriptive quantitative method, this study utilizes a survey approach with a Likert scale, supplemented by data collection techniques such as interviews, observations, and questionnaires. The quantitative research involved 30 elementary school teachers from Blangpidie District, South Aceh Regency. Validity tests resulted in 20 valid statement items with validity coefficients ranging from 0.444 to 0.925, and a questionnaire reliability of 0.979. Collected data were analyzed using descriptive statistics, revealing that teachers' efforts to enhance ICT competencies scored an average of 15.14 or 80.57%, indicating a "Very Good" category. The findings also highlight the involvement of teachers' ICT competencies in various educational aspects, such as planning, implementation, evaluation/assessment of students, use of supporting applications, efforts or methods, support, motivation for enhancing ICT competencies, and several factors hindering the improvement of teachers' competencies.

Keywords: *Educational Technology; ICT Competencies; Learning Facility Management; Teacher Involvement*

1. INTRODUCTION

The integration of Information and Communication Technology (ICT) into educational processes presents unique challenges and opportunities for the education sector, particularly in the realm of contemporary learning technologies. Schools, as formal educational institutions, play a crucial role in achieving national educational objectives through effective learning processes. Teachers, being key participants in these processes, are tasked with employing a diverse array of approaches, methods, and learning media that align with the subjects being taught. The aim is to create a learning environment that is engaging for students, thereby optimizing the learning process through the effective use of educational facilities and media.

Various reasons underline the importance of educational media in enhancing student learning outcomes, including increased student interest in the learning process, improved comprehension of study materials, the use of more varied teaching methods facilitated by ICT, and the encouragement of active student participation beyond mere listening (Fahyuni, 2017). This perspective aligns with the developmental functions mandated by the National Education Law (Law No. 20 of 2003, Article 3), which emphasizes education's role in fostering capabilities, character, and civilization for national enlightenment. The law outlines the objective of developing students' potential to become virtuous, knowledgeable, skilled, creative, independent individuals who contribute to a democratic and responsible citizenry. In response to these objectives, the government has explored educational systems deemed suitable for Indonesian society and the

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nation at large. The evolving landscape of information and communication technology necessitates that teachers possess specific competencies, including professional and pedagogical skills, which are attainable through ICT proficiency. ICT competence involves using technology tools for personal development, social purposes, teaching tasks, and professional growth. Given that a primary responsibility of teachers is to manage learning, integrating ICT into teaching practices is essential. In the context of globalization, the education sector, particularly at the elementary level, has seen significant advancements in the use of technology. The presence of ICT in education enables the realization of effective, enjoyable, and active student-centered learning environments (Aka, 2017). When designed with specific goals in mind, technology can significantly contribute to learning, assisting students in achieving their highest potential (Smaldino, 2011).

Such technological facilities, including computers and laptops, not only support technology-based learning in elementary schools but also simplify the teaching process for educators (Aka, 2014). In line with these developments, the government has allocated substantial funding through the School Operational Assistance (BOS) program to procure technological facilities like computers and laptops for schools, with a particular focus on elementary education. This study aims to investigate the involvement of educators in managing ICT learning facilities at elementary level in the Blangpidie District of South Aceh Regency, alongside their engagement with ICT tools. It adopts a descriptive quantitative research methodology, incorporating a survey method utilizing a Likert scale. This is further enhanced through various data collection methods including interviews, observations, and questionnaires. The research encompasses a sample of 30 elementary school teachers from the Blangpidie District in South Aceh Regency.

2. IMPLEMENTATION METHOD

This study employs quantitative methods to investigate specific populations or samples, utilizing research tools for data gathering, and conducting quantitative or statistical analysis aimed at hypothesis testing. The focus is on assessing the management of ICT learning facilities in elementary schools. It encompasses 15 elementary schools within the Blangpidie District of Southwest Aceh Regency, with the participants being 15 principals and 15 teachers. The research instruments, serving as tools to gauge natural and social phenomena, include survey research through questionnaires for field data collection. The questionnaire uses the Likert scale for responses, rating teacher ICT operation/use from "very capable = 5" to "not capable = 1." Data collection methods also encompass interview and observation guidelines, and documentation studies, designed to gather information on the management of ICT learning facilities, ensuring the validity and reliability of the quantitative data obtained.

3. RESULTS AND DISCUSSION

This study was conducted across 15 elementary schools in the Blangpidie District of Southwest Aceh, involving both principals and teachers to examine the role of teachers in implementing ICT in educational facilities. Utilizing quantitative methods through questionnaires, interviews, and documentation, the research aimed to ascertain the effectiveness of ICT management in learning environments within these schools.

3.1 Hardware and Software Availability

Analysis of the availability of learning resources in ICT revealed varying levels of access and condition across the schools. The assessment was based on three indicators: availability of learning software, condition of hardware supporting learning, and maintenance of learning resources. The categorization of these resources was determined through a scoring system, where a range from low to high was established based on scores obtained from the questionnaire (Tables 1).



Table 1. Indicators of Availability of Learning Software in Schools

Interval	Category	Frequency	Percentage (%)
$X < 6$	Low	-	0
$6 \leq X < 10$	Medium	18	60
$10 \leq X$	High	12	40
	Total		100

The results indicated that 60% of the schools fell into the 'Medium' category for ICT completeness, suggesting a moderate level of available resources. This was contrasted by 40% of schools categorized as 'High', indicating a better provision of ICT tools necessary for learning.

3.2 ICT Maintenance

The maintenance of ICT resources was evaluated through responses from participants, revealing a distribution where 50% of schools had 'Medium' maintenance levels, and the remaining 40% were classified as 'High' (Table 2 and 3). This distribution highlights a notable effort in maintaining ICT resources across schools, although there remains room for improvement.

Table 2. Interval Categories on Information and Communication Technology Maintenance Indicators

Interval	Category	Frequency	Percentage (%)
$X < 10$	Low	3	10
$10 \leq X < 15$	Medium	15	50
$15 \leq X$	High	12	40
	Total		100

Table 3. Frequency Distribution on Maintenance of ICT-Based Learning Media

Interval	Category	Frequency	Percentage (%)
$X < 6$	Low	3	10
$10 \leq X < 15$	Medium	15	50
$15 \leq X$	High	12	40
	Total		100

3.3 Teacher Understanding and Implementation of ICT

The investigation into teachers' competency and utilization of ICT in teaching processes demonstrated a strong inclination towards high competency levels, with 70% of respondents classified as 'Very Good' in their understanding and use of ICT (Table 3 and Figure 1). This suggests a positive impact of ICT in enhancing teaching methodologies and engagement levels in classrooms.

Table 5. Percentage of Teachers' Understanding of ICT Usage

No	Interval	Category	Total	Percentage (%)
1	80% - 100%	Very Good	21	70
2	60% - 80%	Good	6	20
3	40% - 60%	Adequate	2	7
4	20% - 40%	Poor	1	3
5	0% - 20%	Very Poor	0	
Total			30	100%

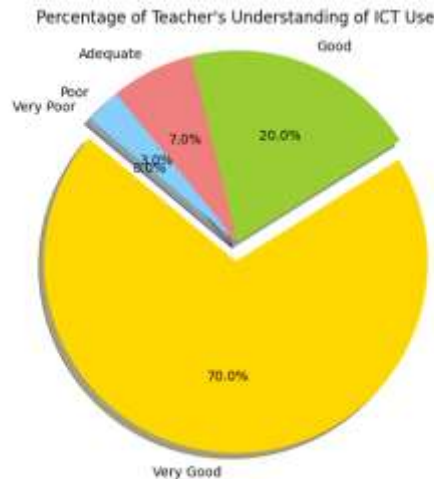


Figure 1. Percentage of Teachers' Understanding of ICT Usage

3.4 Challenges in ICT Utilization

Despite high levels of understanding, the utilization of ICT by teachers showed varied levels of engagement, with some schools reporting lower implementation levels due to limitations in resources and teacher training. These findings underscore the importance of continuous professional development and resource allocation to enhance ICT utilization in educational settings.

3.5 Discussion

The results from this study highlight the pivotal role of teachers in leveraging ICT to enhance educational outcomes. The varied levels of ICT resource availability and maintenance across schools indicate a need for targeted investments in ICT infrastructure and support systems to ensure equitable access to technology-enhanced learning opportunities. Moreover, the high competency levels among teachers regarding ICT use underscore the potential for ICT to transform teaching and learning processes, provided that challenges related to resource limitations and teacher training are addressed. The correlation between ICT resource availability, teacher competency, and educational outcomes suggests that comprehensive strategies encompassing professional development, infrastructure investment, and maintenance protocols are essential for maximizing the benefits of ICT in education.

4. CONCLUSION

The availability of Information and Communication Technology (ICT) at primary schools in Blangpidie sub-district, Southwest Aceh district is in the medium category. This is indicated by the mean score of the ICT availability questionnaire at school when compared to the interval category, which is in the medium interval category. The ICT utilization of SDNs in Blangpidie Sub-district, Southwest Aceh Regency is in the low category. This is indicated by the mean questionnaire score of ICT-based learning media utilization when compared to the interval category, which is in the low category. Teachers' efforts in improving ICT competence show an



average score of 15.14 or 80.57% in the "Very Good" category. The ways or efforts made by teachers to improve ICT competencies vary, such as learning independently, learning together and discussing with friends, and attending ICT training. The factors related to teacher competence are not from the level of education and tenure, but teacher competence is related to support and motivation which is the desire and determination for teachers to improve ICT competence. In addition, there is support in the form of ICT facilities, encouragement from principals and kindergarten supervisors to have ICT competence following the times, school policies to make some learning activities involve the use of ICT and moral support from fellow teachers to learn ICT. Apart from supporting factors, there are other factors that become obstacles for teachers in improving ICT competency efforts, including: the lack of ICT training for teachers to support learning activities, ICT facilities to support incomplete or inadequate learning activities, ICT equipment whose specifications are less supportive for editing images or videos, the absence of friends to discuss, and the limited knowledge of teachers about ICT, both from the use of tools and the operation of applications.

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