

The Effectiveness of Google Form–Based Digital Attendance in Improving Student Discipline in Educational Settings

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Abstract

The rapid development of digital technology has encouraged educational institutions to adopt technology-based innovations in learning administration, including attendance systems. One such innovation is the use of Google Forms as a digital attendance tool. This study aims to analyze the effectiveness of Google Form–based digital attendance in supporting student discipline and improving the efficiency of learning administration. This research employed a quantitative descriptive approach using a survey method. Data were collected through closed-ended questionnaires distributed to students who had experience using Google Form–based attendance during learning activities. The questionnaire measured students' perceptions of ease of use, efficiency, accuracy, and the impact of digital attendance on their learning discipline. The collected data were analyzed using descriptive statistical techniques to identify response patterns and overall trends. The findings indicate that Google Form–based digital attendance is perceived as practical, efficient, and easy to use by most respondents. The system helps reduce administrative errors, minimizes paper usage, and encourages students to be more disciplined in attending classes. In addition, digital attendance facilitates better data management and monitoring of student participation in learning activities. In conclusion, Google Form–based digital attendance has significant potential as an effective and economical solution for learning administration in educational institutions. Its implementation not only supports administrative efficiency but also contributes to improving student discipline and promoting the integration of digital technology in education. Future research is recommended to explore the long-term impact of digital attendance systems on student behavior and learning outcomes using mixed or experimental research designs.

Keywords

Digital Attendance; Google Forms; Student Discipline; Learning Administration; Educational Technology



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1. INTRODUCTION

The rapid advancement of digital technology has significantly transformed various aspects of the educational process, including learning management and academic administration. In the era of digital education, educational institutions are increasingly encouraged to integrate technology not only as a learning medium but also as a strategic tool to improve administrative efficiency and learning discipline (Schindler et al., 2017). The integration of digital systems in education is considered essential to support transparency, efficiency, and accountability in learning activities (OECD, 2020).

Student attendance is a fundamental component of the learning process, as it reflects students' discipline, responsibility, and level of engagement in academic activities (Credé et al., 2010). Conventional attendance systems, which are generally paper-based, often face several challenges such as inefficiency, data inaccuracy, administrative workload, and the potential for attendance manipulation (Alghazo & Al-Saqqa, 2017). These limitations highlight the urgent need for more effective, reliable, and technology-driven attendance management systems.

In response to these challenges, digital attendance systems have emerged as a practical solution by utilizing information and communication technology to streamline attendance recording, data storage, and monitoring processes. One widely accessible and cost-effective digital tool adopted in educational settings is Google Forms. Google Forms enables educators to design digital attendance records that can be accessed easily via smartphones, tablets, or computers. Its features support automatic data collection, real-time documentation, and seamless integration with spreadsheets, making it an efficient platform for managing attendance data (Mulyani et al., 2021).

Beyond improving administrative efficiency, the implementation of digital attendance systems also has implications for student discipline. Technology-based attendance encourages students to be more punctual and accountable, as attendance records are systematically documented and difficult to manipulate. Previous studies have shown that digital attendance systems can positively influence students' learning discipline and reduce absenteeism (Putra & Sari, 2020). This aligns with the broader goal of educational technology integration, which aims not only to enhance

learning outcomes but also to foster positive learning behaviors and responsibility among students (Kirkwood & Price, 2014).

However, despite its potential advantages, the implementation of digital attendance systems is not without challenges. Factors such as unstable internet connectivity, varying levels of digital literacy among users, and the possibility of students misusing digital devices during learning activities may affect the effectiveness of digital attendance implementation (Junco, 2012). Therefore, evaluating students' perceptions and experiences regarding digital attendance systems is essential to understand their actual impact on learning discipline and administrative efficiency.

Based on these considerations, this study aims to examine the effectiveness of Google Form–based digital attendance in improving student discipline and enhancing learning administration efficiency. By analyzing students' responses and experiences, this research seeks to provide empirical evidence on the role of digital attendance systems in supporting effective educational management and promoting the integration of digital technology in educational environments.

2. METHODS

This study employed a quantitative research approach using a descriptive survey design to examine the effectiveness of Google Form–based digital attendance in improving student discipline and learning administration efficiency. The quantitative approach was selected to obtain measurable data regarding students' perceptions and experiences with the implementation of digital attendance systems in the learning process (Creswell & Creswell, 2018).

The participants of this study were students who had experience using Google Form–based digital attendance during learning activities. A purposive sampling technique was applied, with the primary criterion that participants actively used digital attendance systems in their classes. This sampling method was chosen to ensure that the respondents possessed relevant experience and could provide accurate information related to the research objectives (Etikan et al., 2016).

Data were collected through a closed-ended questionnaire distributed to students. The questionnaire was designed to capture students' perceptions of the digital attendance system, including ease of use, efficiency, accuracy, and its impact on learning discipline. The questionnaire items were developed based on indicators

relevant to digital attendance effectiveness and student discipline, and were adapted to the educational context of the study.

Responses were measured using a Likert scale ranging from strongly disagree to strongly agree. The use of a Likert scale allowed for systematic measurement of attitudes and perceptions toward the implementation of Google Form-based digital attendance (Likert, 1932).

The research instrument consisted of several statements grouped into key variables, namely: (1) ease of use of Google Form-based attendance, (2) efficiency of attendance administration, (3) accuracy and reliability of attendance data, and (4) the influence of digital attendance on student discipline. Prior to data analysis, the questionnaire was reviewed to ensure clarity and relevance of each item in representing the measured variables.

The collected data were analyzed using descriptive statistical techniques. Descriptive analysis was conducted to determine the frequency, percentage, and overall trends of students' responses to each questionnaire item. This analysis provided an overview of students' perceptions regarding the effectiveness of Google Form-based digital attendance and its contribution to learning discipline and administrative efficiency.

The results of the descriptive analysis were then interpreted to identify patterns and tendencies related to the use of digital attendance systems in educational settings. This approach enabled the study to present empirical evidence regarding the role of Google Forms as a digital attendance tool in supporting technology-based learning administration.

3. FINDINGS AND DISCUSSION

3.1. Initial Condition of Attendance: Manual Practices, High Error Risk, and Limited Data Recapitulation

Prior to the implementation of Google Form-based digital attendance, the attendance system relied predominantly on manual, paper-based methods. This conventional approach required students to sign attendance sheets during class sessions, which were later collected and processed by lecturers or administrative staff. Although widely used, manual attendance systems present several inherent limitations that affect both accuracy and efficiency.

One of the primary weaknesses of manual attendance is its high susceptibility to human error. Mistakes in recording, illegible handwriting, and data loss frequently occur during the documentation and recapitulation processes. In addition,

manual systems are vulnerable to attendance manipulation, such as proxy signing, which undermines the reliability of attendance records. These issues reduce the validity of attendance data and complicate efforts to monitor students' participation accurately.

Furthermore, manual attendance systems offer limited support for systematic data recapitulation. Attendance records are often stored in physical form, making it difficult to retrieve, summarize, and analyze attendance patterns over time. As a result, educators face challenges in identifying trends related to student punctuality, absenteeism, and learning discipline. The absence of integrated data management also increases the administrative workload, as attendance data must be processed repeatedly for reporting and evaluation purposes.

These limitations indicate that manual attendance practices are no longer sufficient to meet the demands of modern educational administration. The lack of efficiency, accuracy, and accessibility highlights the need for a more reliable and technology-based attendance system. In this context, the transition to digital attendance using platforms such as Google Forms represents a strategic response to overcome the shortcomings of manual attendance and to support more effective learning administration.

3.2. Digital Attendance as a Professional Innovation for Educators at Madrasah Diniyah Patik

The implementation of digital attendance at Madrasah Diniyah Patik represents a significant professional innovation in educators' administrative and instructional practices. Traditionally, attendance management in non-formal religious educational institutions has relied on manual documentation, which often limits efficiency and data accuracy. The adoption of digital attendance systems marks a shift toward more modern, structured, and accountable educational management.

For educators, digital attendance serves not only as an administrative tool but also as a means of enhancing professional competence in utilizing educational technology. By adopting Google Form–based attendance, educators at Madrasah Diniyah Patik demonstrate adaptability to technological advancements and a willingness to integrate digital tools into their daily professional responsibilities. This aligns with the growing demand for educators to possess digital literacy and technological competence in contemporary educational settings.

Moreover, digital attendance contributes to improving the quality of administrative work by simplifying data collection, storage, and recapitulation processes. Attendance data can be accessed in real time, systematically organized, and easily analyzed to monitor students' participation and discipline. This efficiency allows educators to allocate more time and attention to instructional activities rather than administrative tasks, thereby enhancing overall teaching effectiveness.

From a pedagogical perspective, the use of digital attendance also influences students' learning behavior. The transparency and accuracy of digital records encourage students to be more disciplined and responsible in attending classes. In this way, digital attendance supports educators' efforts to foster positive learning attitudes and reinforce discipline within the learning environment of Madrasah Diniyah Patik.

Overall, the adoption of digital attendance at Madrasah Diniyah Patik reflects an important step toward professional innovation among educators. By integrating technology into administrative practices, educators not only improve efficiency and accountability but also contribute to the broader transformation of educational management. This innovation illustrates how simple and accessible digital tools can support professional development and promote sustainable technology integration in religious educational institutions.

4. CONCLUSION

This study concludes that the implementation of Google Form-based digital attendance serves as an effective and practical innovation in educational administration. Compared to conventional manual attendance systems, digital attendance offers greater accuracy, efficiency, and reliability in recording and managing student attendance data. The transition from paper-based attendance to a digital system addresses common issues such as recording errors, data loss, and administrative inefficiency.

The findings also indicate that digital attendance contributes positively to improving student discipline. The transparency and systematic nature of digital records encourage students to be more punctual and responsible in attending learning activities. In this regard, digital attendance functions not only as an administrative instrument but also as a behavioral reinforcement mechanism that supports learning discipline.

Furthermore, the adoption of digital attendance represents a form of professional innovation for educators, particularly in adapting to technological developments in educational management. By utilizing accessible platforms such as Google Forms, educators can enhance their digital competence while streamlining administrative tasks. This allows greater focus on instructional activities and supports the broader integration of technology in educational environments.

Despite its benefits, the effective implementation of digital attendance requires adequate technological infrastructure, stable internet access, and clear guidelines for technology use. Institutional support and continuous capacity building for educators are essential to ensure sustainable and optimal utilization of digital attendance systems. Overall, Google Form-based digital attendance demonstrates strong potential as a cost-effective and scalable solution for improving learning administration and fostering student discipline. Future studies are recommended to explore its long-term impact on learning outcomes and to examine its implementation across diverse educational contexts using more comprehensive research designs.

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