

Information System Management for Student Discipline Based on the Attitude Record Application in an Elementary School

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Abstract: *This study examined the evolution of Management Information Systems (MIS) within the context of industry 4.0 era, specifically emphasizing student discipline management. The research aimed to implement the "Attitude Record" application at the Islamic Elementary School (SDI) Al Amanah in Bandung Regency, serving as a foundational database for student discipline management. The research methodology employed in this study was the school-based action research method. The research outcomes affirmed that the application of management through the "Attitude Record" application within the framework of the student discipline information system at SDI Al Amanah enabled administrators to select actions under students' conditions. The procedural steps taken in this school-based action research had yielded substantive alterations in the arrangement and monitoring of student conduct while yielding significant effects on the educational ambience within the institution. In a comprehensive context, the discipline management founded upon the information furnished by the "Attitude Record" application had substantial contribution by enhancing oversight, reporting, and handling student disciplinary infractions. This approach extended beyond mere reliance on students' attendance criteria or advancements in specific subjects. Instead, it encompassed a comprehensive view of student behavior, enabling administrators to adopt an informed and sensitive approach to individual student contexts. Discipline management based on information provided by the "Attitude Record" application had significantly contributed to enhancing supervision, reporting, and addressing student disciplinary violations. This approach avoided limiting itself to student attendance or specific subject areas improvements. Instead, it offered a more holistic perspective on student behavior, enriching the disciplinary framework.*

Keywords: *Management; Information System; Discipline; Attitude Record*

INTRODUCTION

The improvement of student discipline in elementary schools is of paramount importance as strong discipline at this stage serves as the foundation for the development of students' personalities in subsequent levels of education and in their societal lives (Dakhi, 2020; Eka Purwanti, dan Yantoro, 2020). Therefore, the role of teachers in instilling discipline is crucial (Arniah et al., 2022; Bisri & Ulfa, 2021; Iqbal & Junaidah, 2022; R & Hidayattullah, 2023). In addition to the teacher's role, enhancing the effectiveness of character education programs for discipline is essential (Prasetya et al., 2019; Setiawan,

2017; Syafitri et al., 2020).

Typically, educational institutions employ a classical discipline approach, often involving the use of punitive methods and verbal reprimands (Tabroni, 2019). This approach has been the common practice for managing student discipline in various educational settings. In an effort to establish the desired level of discipline, educational institutions frequently rely on sanctions or punishments as a means to enforce established rules and norms. Furthermore, verbal warnings are often utilized as a form of cautionary measure for students who violate such rules. However, as our understanding of educational psychology and more student-centered approaches continue to evolve, alternative approaches are also being introduced to effectively address the challenges of discipline management.

Generally, educational institutions have not yet fully adopted adequate information systems for student discipline management. Some schools focus solely on attendance discipline (Nurreni et al., 2021; Susiyanti & Sholeh, 2019), student disciplinary violations (Ansori, 2020), the crucial role of teachers in enhancing student discipline and instilling discipline during learning (Windiyani et al., 2021). The use of information systems in student discipline management is currently limited, but there is significant potential to expand and enhance its utilization across various aspects (Derta, 2020).

The era of the Fourth Industrial Revolution demands educational institutions to develop better Educational Management Information Systems (EMIS). The advancement of information technology has brought significant changes to nearly every aspect of human life, including education. Educational institutions are expected to develop sophisticated and integrated educational information systems to effectively manage educational activities, including student discipline, to achieve educational goals (Ahmad Fauzi, 2019; Ni`mah & Nanik, 2022).

The student discipline management system based on the Attitude Record application is implemented at Al Amanah Islamic Elementary School (SDI) in Bandung Regency. This school serves as a best practice example in utilizing the Attitude Record application. This information system serves as a tool that enables efficient data collection and processing, aids in making informed decisions, and provides accurate information regarding student discipline.

The use of information systems in student discipline management can be expanded based on research conducted by Sasitorn Lijanporn and Jintavee Khlaisang. In their study titled "The Development of an Activity-based Learning Model Using Educational Mobile Application to Enhance Discipline of Elementary School Students," they found that the implementation of

activity-based educational applications can improve student discipline. This research revealed that students tend to become more disciplined when using applications that not only provide motivation and learning experiences but also offer practical knowledge, feedback, and evaluations of their behavior (Lijanporn & Khlaisang, 2015).

Research conducted by Rina Wati and Suyono, titled "Decision Support System for Student Discipline Assessment Using the Topsis Method (Case Study: SMK Ma'arif Sukoharjo)," revealed that the implementation of this decision support system has a positive impact on improving student discipline and the accuracy of decision-making processes. In the context of this research, the use of the Topsis Method in the development of the decision support system played a key role. Findings from this research indicate that through the implementation of a decision support system adopting the Topsis Method, student discipline can be significantly enhanced. This system allows for more precise and accurate decision-making in addressing discipline-related situations. The use of such technology and methods provides a structured and measurable framework for managing and monitoring student discipline.

The research conducted by Iva Sarifah et al., titled "Development of Android-Based Educational Games to Enhance Elementary School Student Interests in Learning Mathematics," yielded significant findings. These findings demonstrate that Android-based educational games have a positive impact on enhancing students' interest in learning mathematics. This research highlights the importance of leveraging technology in the educational context to stimulate students' learning interests (Sarifah et al., 2022).

The study by Laksita G et al., titled "The Effect of Android Game-Based Learning on Student Interest in Mathematics Learning," explores the positive impact of using Android-based games in enhancing students' interest in mathematics learning. This discussion emphasizes how the redirection of smartphone usage, previously dominated by social media activities, can be harnessed for more productive purposes, specifically increasing students' interest in mathematics using educational games (Laksita et al., 2020).

Previous research has primarily focused on student discipline in specific domains. However, in this study, the researchers aim to explore how Al-Amanah Islamic Elementary School (SDI) implements a student discipline management information system based on the Attitude Record application. The objective is to apply this system in the centralized teaching and learning process within the school, extending its applicability beyond a particular subject area.

Previous research has tended to focus on the analysis of student discipline within specific domains. In the context of this study, the researchers aim to take a step further by exploring the implementation of the Student

Discipline Management Information System (SDMIS) based on the Attitude Record application at Al-Amanah Islamic Elementary School (SDI). This research aims to investigate how the implementation of this system can be centrally applied in the context of the teaching and learning process across the entire school, involving various subjects without limitation to a specific field. Thus, this study pioneers a holistic approach to student discipline management that has the potential for broader impacts on the efficiency and effectiveness of the education system.

RESEARCH METHOD

The method employed in this study is the School Action Research (SAR) method. SAR is a research procedure adapted from Classroom Action Research (CAR). School action research is characterized as follows: "(1) participatory research that emphasizes action and reflection based on rational and logical considerations to improve a real condition; (2) deepening the understanding of the actions taken; and (3) practically improving the school/learning situation" (Ajar, 2008; Pahleviannur et al., 2022; Widayati, 2014). In the context of this research, the object under investigation was the Management Information System with a focus on the "Attitude Record" application, which was utilized for managing student discipline data. Data were collected from student affairs staff, guidance and counseling teachers, and the school principal. This research method was conducted through the following steps:

Planning: This stage involved formulating the research objectives, selecting the research methods, and designing the interventions that would be implemented in the "Attitude Record" information system. The research objectives were formulated as an effort to enhance the effectiveness of student discipline management through changes or developments in the system. The school action research method was chosen due to its compatibility with the intervention-based research characteristics.

Implementation of Actions: In this stage, interventions were carried out on the "Attitude Record" system. Interactions with the student affairs staff, guidance counselors, and the school principal were conducted to gather their perspectives and experiences regarding the use of this information system in student discipline management. Interventions could encompass the development of new features, improvements to the user interface, or adjustments to work procedures.

Observation: Data were collected through observations of the outcomes of the interventions conducted. This included feedback from the student affairs staff operators, guidance counselors, and the school principal regarding the implemented changes. Observations were also made regarding the effectiveness

of student discipline management through the "Attitude Record" information system before and after the interventions.

Reflection: At this stage, the gathered data were analyzed in-depth. An evaluation was conducted to assess the extent to which the implemented changes had successfully improved the effectiveness of student discipline management. This reflection helped assess the positive impact of the interventions and provided insights for further improvements if needed.

Further Action: Based on the results of reflection, further actions could be taken for additional improvement or system development. This step might involve revising interventions, developing additional features, or adjusting system usage strategies.

Research Location: This study was conducted at SDI Al Amanah Cileunyi.
Research Period: The research was carried out in August 2022.
Research Subjects: The subjects of this school action research were the student affairs team at SDI Al Amanah Cileunyi.
Action: The action implemented in this research was the use of the Attitude Record Application to record student violations of the school rules at SMP Al Amanah Cileunyi.

RESULT AND DISCUSSION

Attitude Record Application

The Attitude Record is a technological innovation focused on managing student disciplinary violation data within the SDI Al Amanah Cileunyi environment. This application is designed to assist in depicting the dominant types of violations, analyzing trends, and providing deeper insights into critical aspects related to student discipline.

The Attitude Record application features several key functions that facilitate the management and analysis of student disciplinary violation data as explained below.

Violation Recording: This application allows student affairs staff operators, guidance counselors, and authorized personnel to record disciplinary violations committed by students. Each violation is logged with detailed information, including the type of violation, date, time, location, and relevant student data.

Trend Graphics of Violations: One of the main features is the ability to generate graphics that illustrate the prevailing trends in types of violations over specific time periods. These graphics provide a clear visual overview of the most frequently occurring violations, aiding the school authorities in formulating more effective policies and interventions.

In-Depth Analysis: The application also offers in-depth analysis features for violation data. This analysis can encompass patterns of violations related to specific times, locations within the school, grade levels, or even student characteristics. This information is highly valuable in identifying the root causes of violations and designing more targeted prevention strategies.

Reporting and Notifications: The application enables the creation of comprehensive reports regarding violation data and generated analyses. Additionally, notifications can be configured to alert relevant parties about significant changes in violation patterns.

The Design of the Attitude Record Application Menu in the Student Discipline Information System

The results of observations of the Attitude Record application indicated that the color scheme within this application aligns consistently with the objectives of the student discipline information system, as cited by T. Schlatter and D. Levinson in Ghiffary et al. (2018) emphasizing that consistent colors also aid users in comprehending the application. The colors used effectively highlight information related to student discipline. Contrast in colors is achieved using complementary colors. The color contrast between text and background in this application is considered adequate, ensuring that text and other information are clearly visible and easily legible to users.

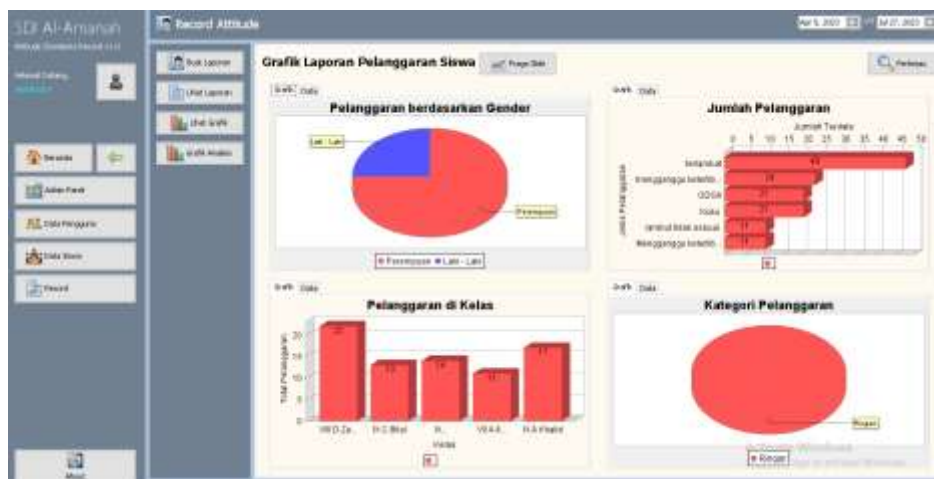


Figure 1. User Interface of the Control Buttons in the Attitude Record Application

(Source: Attitude Record Application Operator Documentation, SDI Al Amanah, 2023)

Controls within this application are well-designed. Controls encompass

everything that allows users to interact with data through the user interface, as defined by T. Schlatter and D. Levinson Ghiffary et al. (2018). The application offers excellent accessibility and navigation ease. Buttons and navigation menus are thoughtfully placed and quickly discoverable by users. Controls in this application maintain consistency through the use of clear icons, symbols, or texts that accurately represent their functions. This simplifies the users' abilities to identify and utilize available controls. The application also provides an adequate range of controls for managing student discipline information, enabling users to access necessary functions and options effortlessly. Control responsiveness to users' actions is considered swift, and changes made through the controls are instantly visible, delivering responsive users' experiences.

Overall, the color scheme and control design in the Attitude Record application have considered readability, consistency, and the emotional impact on users, as color can have psychological effects on individuals. This design is expected to offer positive users' experiences and facilitate user-friendly management of the student discipline information system.

Planning for a Student Discipline Information System Based on the Attitude Record Application

The planning of a student disciplinary information system based on the Attitude Record application consists of activities operated by a manager to think ahead and make current decisions, enabling anticipation and addressing challenges in the future (Suhadi Winoto, 2021). These activities include goal setting, estimation, programming, scheduling, budgeting, coordination, policy determination, and interpretation.

In the context of goal setting, information reveals that the objectives of discipline management based on the Attitude Record data application aim to enhance supervision and monitoring of student discipline levels in school, improve the effectiveness of reporting processes, and handle disciplinary violations by students. Ultimately, this creates a conducive and safe learning environment by reducing disciplinary violation incidents (Interview with the Head of Al Amanah Islamic Elementary School, April 3, 2023).

This phenomenon aligns with Malayu Hasibuan's statement that goals are desired outcomes that depict a clear scope and provide direction to a manager's efforts. Through interviews, it is evident that the school head, as a manager, plays a crucial role in setting a clear direction for the desired outcomes. Specifically, the use of the Attitude Record application is aimed at facilitating the school head in obtaining accurate and comprehensive data on student discipline conditions. This, in turn, aids in making informed decisions for subsequent disciplinary guidance.

The forecasting element of planning involves analyzing historical data on disciplinary violations, conducting surveys, and collaborating with experts or consultants to predict future trends and patterns (Nurdin, 2019; Tanjung et al., 2022). This application will gather historical data on the discipline levels of all students at specific points in time. This comprehensive data can be accessed anytime and anywhere.

In the context of application development and design, the school collaborates with alumni from SDI Al Amanah who are experts in designing and programming the Attitude Record application. The Attitude Record application can enhance efficiency in managing and reporting disciplinary violations through the automation of administrative tasks, efficient collaboration, and an intuitive user interface.

By considering and implementing these planning elements, the Attitude Record application can make a significant contribution to improving supervision, reporting, and handling of student disciplinary violations. It can also foster a conducive and safe learning environment within the school.

Organization of Student Discipline Information System Based on the Attitude Record Application

Organization involves the grouping and determination of various essential activities and the delegation of authority in their execution (Jamaludin et al., 2022). This research focuses on four significant elements of organization. Firstly, it is the element of tasks. This element serves as a system to facilitate the work of staff, operators, and school administrative personnel. The Attitude Record application provides tools that allow for centralized collection, storage, and organization of student discipline information. Automation features in recording and processing data, as well as efficient data search and filtering capabilities, also reduce the workload in managing and tracking student disciplinary violation data (Observation of application operator's work processes, April 5, 2023).

Secondly, the element of relationships within this system signifies collaboration among teachers, parents, students, and the school in addressing disciplinary issues. The Attitude Record application facilitates communication, information sharing, and cooperation in handling disciplinary violations. Direct communication channels, real-time notifications, and timely information exchange enable more effective disciplinary issue resolution. Based on interviews with 2 parents, it was concluded that they found it very helpful to receive both daily and monthly information regarding the progress of student disciplinary violations.

Thirdly, the element of personnel within this system indicates the assignment of school employees in inputting and maintaining student discipline

data. The student management team serves as the operators of this application. They are responsible for entering student disciplinary violation information into the system and updating data as needed. In this regard, the Attitude Record application reduces workload and enhances efficiency in managing and tracking student disciplinary violation data.

Fourthly, the environmental element within this system emphasizes the importance of maintaining a safe and orderly school environment. The Attitude Record application facilitates efficient reporting and handling of disciplinary violations, incident monitoring, and appropriate actions. This system also assists schools in identifying areas vulnerable to disciplinary violations, shaping a disciplined school culture, and supporting effective learning. This research confirms that the Student Discipline Information System based on the Attitude Record application provides significant benefits by simplifying the work of staff and school administrative personnel, strengthening relationships among teachers, students, and parents, reducing the workload in managing and tracking student disciplinary data, and maintaining a safe and orderly school environment. Considering these four elements, this application becomes an effective tool for managing and enhancing student discipline within schools. This research makes a vital contribution to understanding the implementation of the Student Discipline Information System based on the Attitude Record application and its benefits in an educational context. Additionally, this research can serve as a foundation for further development and improvement of student discipline information systems in other schools.

The Direction of Student Discipline Information System Based on the Attitude Record Application

There are two essential elements discussed in this research, namely motivation and guidance, as well as providing an overview of the activities to be carried out. Direction or, in other terms, leadership, is an activity directly related to individuals within an organization (Noer R & Zaenal F, 2017). The stages of this leadership encompass providing motivation, guidance, and direction.

Firstly, the element of providing motivation underscores the importance of the school principal in motivating staff to engage in the use of this system willingly and enthusiastically. To achieve this, the school principal communicates clearly about the objectives and benefits of the student discipline information system, emphasizing how it will enhance efficiency, accuracy, and transparency in managing student discipline. With a clear understanding of the benefits to be gained, the staff (operators) is motivated to actively use the system. Additionally, the school principal presents challenges and challenging tasks to develop the staff's skills in operating and managing the Student

Discipline Information System. They also provide recognition and appreciation to staff that excel in using the system. Through effective motivation, the school principal strives to ensure that staff remains motivated and active in operating this system. Based on interviews with operators (April 5, 2023), it was found that this motivational aspect has been provided by the school principal.

Secondly, the element of guidance and providing an overview of activities underscores the importance of the school principal in giving clear instructions to staff and operators regarding the use of the Attitude Record application within the student discipline information system based on the application. For this purpose, based on findings, the school principal employs several approaches to provide guidance and an overview to staff. They hold special orientation meetings where they explain the system in detail. Additionally, they provide written instructions outlining the step-by-step usage of the system, including how to input student discipline data, access records, and utilize other features. They also provide real-life examples of system usage to provide a clearer picture. During the orientation process, the school principal encourages questions and discussions to ensure better understanding and address potential difficulties. By providing clear guidance and a comprehensive overview, the school principal ensures a strong understanding and effective use of the Attitude Record application in managing student discipline.

Overall, this research demonstrates that the school principal adopts a comprehensive approach in directing staff in the use of the Attitude Record application as part of the Student Discipline Information System. They provide the motivation, guidance, and necessary overview to actively involve staff in system operation. Thus, this research makes a significant contribution to understanding how the element of direction can influence student discipline management through technology-based applications.

Supervision of the Student Discipline Information System Based on the Attitude Record Application

The final management function is supervision, which is to ensure that the performance of personnel and outputs align with the plan (Noer R & Zaenal F, 2017). Supervision in the Student Discipline Information System based on the Attitude Record application comprises four essential elements:

First, setting standards involves making statements about the conditions that occur when a task is performed satisfactorily. Work success standards are established based on the objectives and targets specified in the plan (Noer R & Zaenal F, 2017). This process involves teachers, administrative staff, and students (interview with the school principal, April 3, 2023). The standards encompass the effectiveness of system usage, data accuracy, response speed, and the fulfillment of tasks related to this system. Periodic performance

evaluations ensure the achievement or improvement of these standards.

Second, performance appraisal involves the school principal assessing personnel performance through structured evaluations, direct observation, or observation, and analysis of work results. This assessment includes personnel's ability to operate the application, handle student issues, maintain data accuracy, and adhere to established work procedures. Assessment results are used for personnel development and identifying training needs.

Third, it relates to corrective actions. If problems or errors occur, the school principal takes swift and effective corrective actions. This involves identifying the root causes of issues, collaborating with the relevant team, and implementing necessary improvement steps. Clear and transparent communication with personnel is crucial in explaining the corrective actions taken.

Fourth, it subsumes job observations. The school principal conducts direct observations of personnel performance in operating the application, inputting data, responding to student issues, and maintaining information security. These observations help assess the quality of personnel's work. Involving personnel in supervision and evaluation also creates greater engagement and accountability.

In this research, it has been found that the direction element in supervising the Student Discipline Information System Based on the Attitude Record Application is carried out through setting standards, performance appraisal, corrective actions, and job observations. This approach helps improve the quality and performance of the system and effectively maintains student discipline.

CONCLUSION

The utilization of the Attitude Record application at SDI Al Amanah has enhanced the monitoring of student behavior, with the ability to access student behavior data easily and swiftly through the application, enabling real-time supervision by school staff. Transparency and accountability in discipline management have improved, providing opportunities for prompt actions in addressing violations. Furthermore, this application promotes more efficient reporting. By harnessing the Attitude Record, the school can generate comprehensive reports on student discipline more easily and quickly. The information generated from this application serves as the basis for better decision-making regarding improvements or corrective actions needed. Additionally, the use of the Attitude Record application also strengthens the capacity to address student disciplinary violations. The data recorded in the

application provides an opportunity to analyze trends and patterns of rule-breaking student behavior. This allows the school to design more precise and effective intervention strategies, which, in turn, can reduce future violation incidents.

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