

Analysis Of The Implementation Of The Student Grade Data Processing Information System Based On The E-Report Application

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Abstract:

Technological developments have had an impact on various fields including education, one of its applications is the use of the E-Raport application in processing student grade data, this E-Raport System is a system regulated by the Ministry of Education and Culture that can be used in educational institutions to assist educators in processing student data to be more effective and efficient. This study aims to analyze the implementation of the student grade data processing information system based on the E-Raport Application at SMAN 1 Pangandaran. This study uses a qualitative method, with the research subjects being the vice principal of the madrasah for curriculum, school operators and subject teachers. Data collection techniques used in this study are observation, interviews, and documentation conducted directly in the field. The results of the study can be concluded that the Implementation of the Student Grade Data Processing Information System Based on the E-Raport Application at SMAN 1 Pangandaran has been said to be successful and running well. By analyzing using variables that can affect implementation, all of these variables have run well so that the implementation of the E-Raport system also runs well. There are also advantages and disadvantages of the E-Raport system, the advantages of this E-Raport system are Accessibility, Flexibility and Integration with Dapodik while the weaknesses of this application are some that come from internal sources such as networks that sometimes error and input errors so that they are not synchronized with those in the system, while those that come from external sources are the lack of features that can be accessed by parents and students to be able to see grades directly.

Keywords: *Information System, E-Report, Student Grade Processing*

Abstrak:

Perkembangan teknologi telah membawa dampak dalam berbagai bidang termasuk bidang pendidikan, salah satu penerapannya adalah penggunaan aplikasi E-Raport dalam pengolahan data nilai siswa, Sistem E-Raport ini adalah sistem yang diregulasikan oleh Kemendikbud yang dapat di gunakan di Lembaga pendidikan untuk membantu tenaga pendidik dalam pengolahan data siswa agar lebih efektif dan efisien. Penelitian ini bertujuan untuk menganalisis implementasi sistem informasi pengolahan data nilai siswa berbasis Aplikasi E-Raport di SMAN 1 Pangandaran. Penelitian ini menggunakan metode kualitatif, dengan subjek penelitian adalah wakil kepala madrasah bidang kurikulum, oprator sekolah dan guru mata pelajaran. Teknik pengumpulan data yang digunakan dalam penelitian ini adalah observasi, wawancara, dan dokumentasi yang dilakukan langsung ke lapangan. Hasil penelitian dapat disimpulkan, bahwa Implementasi Sistem Informasi Pengolahan Data Nilai Siswa Berbasis Aplikasi E-Raport di SMAN 1 Pangandaran sudah di katakan berhasil dan berjalan dengan baik. Dengan dianalisis menggunakan variable-variabel yang dapat mempengaruhi implementasi, Semua

variable tersebut sudah berjalan dengan baik sehingga implementasi sistem E-Raport juga berjalan dengan baik Terdapat pula keunggulan dan kelemahan dari sistem E-Raport, yang menjadi keunggulan dari sistem E- Raport ini adalah Aksesibilitas, Fleksibilitas dan Terintegrasi dapodik sedangkan yang menjadi kelemahan aplikasi ini adalah ada yang bersumber dari internal seperti jaringan yang terkadang eror dan kesalahan input nilai sehingga tidak sinkron dengan yang ada di sistem, sedangkan yang bersumber dari eksternal yaitu belum tersedianya fitur yang dapat di akses oleh orang tua dan siswa untuk dapat melihat nilai secara langsung.

Kata Kunci: *Sistem Informasi, E-Raport, Pengolahan Nilai Siswa*

1. INTRODUCTION

The rapid advancement of era and technology demands information for every organization, both governmental and private. One of the sectors that utilizes the development of information technology is the education sector. Information systems in the educational environment play an important role in improving the efficiency and effectiveness of school management. Every school should utilize technology to facilitate data management, because data that is processed well will certainly produce good information.

One form of information system implementation in educational institutions is the application of the E-Raport application in student grade data processing. The form or result of learning outcome evaluation in an educational institution is usually given in the form of a report card. A report card is a book containing scores of intelligence and learning achievements of students at school, functioning as an official report from the teacher to the parents or guardians who receive it. The report card is one of the school's accountabilities to the community regarding the abilities possessed by students in the form of a collection of assessment results.

Along with the development of information technology, the Directorate of Primary and Secondary Education, Ministry of Education and Culture, has developed an e-raport application for primary and secondary education levels that is integrated with the Education Data Base (Dapodik) so that learning outcome assessments are more systematic, comprehensive, and also more accurate. (Ahmad Solichin, 2019).

SMA N 1 Pangandaran is one of the largest educational institutions in Pangandaran regency. SMA N 1 Pangandaran is also one of the educational institutions that has implemented the E-raport system in student grade processing. The implementation of the E-Raport system began around 2019 at SMA N 1 Pangandaran; however, in its implementation there are still several obstacles and problems, so it is important to analyze how the implementation of the student grade data processing information system based on the E-Raport application at SMAN 1 Pangandaran is carried out.

In several previous studies, information systems have been widely implemented in various educational institutions in Indonesia, particularly regarding the E-Raport system, including in the journal entitled "Sistem Informasi Rapor Online Berbasis Website Dalam Upaya Efisiensi Pengolahan Nilai Siswa" (Website-Based Online Report Card Information System in an Effort to Improve Student Grade Processing Efficiency). The results of this study indicate that there is a quite significant difference after the implementation of the digital report card information system, especially in the input of student grade data. By using this online report card information system, the presentation of student report card grades becomes faster because teachers no longer need to collect assessment results to the homeroom teacher, and the grade calculation is more accurate. (Herdini, 2024)

Furthermore, in the journal entitled "Implementasi Sistem Informasi Akademik E-Rapor Berbasis Web Pada Sekolah SMP Yayasan Yasshofi Cikande" (Implementation of

Web-Based E-Raport Academic Information System at Yasshofi Foundation Junior High School). The results of this study indicate that the Report Card Grade Processing Information System that was created has been running well. This system has been running smoothly and is able to conduct student assessments at SMP Yasshofi. The implementation results show that this system is very good to use in assisting teachers at SMP Yasshofi Cikande. (Didi Ciswanto, 2023).

2. RESEARCH METHOD

The research method used in this study employs a qualitative approach with a case study type conducted at SMAN 1 Pangandaran. Qualitative research method is a research method based on post-positivism or interpretive philosophy, used to research the condition of natural objects, where the researcher is the key instrument (Sugiyono, 2021). This study intends to examine and understand how the implementation of the student data processing information system through the E-Raport system is carried out; in addition, this study is also to determine what the advantages and weaknesses of the E-Raport system are at SMAN 1 Pangandaran.

The sources of information in this study were obtained from several informants, namely the vice principal for curriculum, the operator, and subject teachers at SMA N 1 Pangandaran. Because these informants are the appropriate sources of information in exploring information directly related to the research needs. Especially in exploring information regarding the E-Raport information system. Data collection techniques were carried out through direct field observation, interviews with informants, and documentation.

3. RESULTS

A. Description of the E-Raport Information System

1) Information System

According to O'Brien, in Yakub's book, an information system is an orderly combination of people, hardware, software, communication networks, and data resources that collect, transform, and disseminate information in an organization. (Yakub, 2012). An information system is part of an organizational system that is a combination of users and available resources such as technology and information control media with the aim of obtaining communication channels, processing transaction types, delivering signals to management levels as a basis for information in decision-making. (Sudirman, 2020).

2) E-Raport

A report card is a book containing reports of student achievement in the form of intelligence scores and learning achievements of students at school, functioning as an official report from the teacher to the parents or guardians who are required to receive it. The report card itself is one of the school's accountabilities to the community regarding the abilities possessed by students in the form of a collection of assessment results. (SD, 2018)

E-Raport is software or a web-based application that has the function of managing assessments and compiling competency achievement reports of students or report cards in educational units. E-Raport is a web-based application, where in one school this application only needs to be installed on a server or computer that functions as a server. (Monalisa, 2020)

The e-raport application is web-based software used to compile student ability

reports in accordance with class levels and learning units. This process involves homeroom teachers who input extracurricular grades, student attendance records, achievement records, attitude descriptions, and special notes from the homeroom teacher. Furthermore, the e-raport will compile this information into student grades and descriptions in accordance with student achievements on each basic competency assessed.

3) Analysis of the Implementation of the E-Raport Information System in Student Grade Data Management

According to Van Meter and Van Horn, implementation is an important stage in the public policy cycle; implementation is often only regarded as the execution of what has been decided by policymakers. However, in reality, the implementation stage becomes so important because a policy will mean nothing if it cannot be implemented properly and correctly. In this study, the author uses the Van Meter and Van Horn policy implementation model as a tool for analysis. In this Van Meter and Van Horn implementation model, there are six variables that can form the relationship between policy and implementation (performance). The following are the discussion results of this implementation model:

a. Standards and Objectives

Based on interview results, it is known that the main objective of implementing the E-Raport system in student grade data processing is school digitalization as instructed by the Ministry of Education and Culture regarding digital-based schools. Thus, digitizing all school data including student grade processing. And also helping educators improve effectiveness in processing student data. This shows that SMAN 1 Pangandaran has clear objectives in implementing the E-Raport system. This is in line with Van Meter and Van Horn's theory, which states that every public policy must have standards and objectives that must always be clearly stated in every program.

b. Resources

Resources are important to consider because they can affect implementation performance. The resources discussed in this study are human resources available to implement the E-Raport system, and infrastructure that supports the implementation of the E-Raport system at SMA N 1 Pangandaran. The school needs several software to access the academic information system. Basic needs include an operating system, a web browser, and applications provided by the government. As for humans as brainware, they become supporters that cannot be separated from the digital report card information system because humans are the users who will operate the system.

From the research results, it is known that the resources at SMA N 1 Pangandaran are quite adequate. Facilities such as internet networks and computer devices, especially for operators, are already available, as are human resources because the school has assigned school operators to attend training regarding the E-Raport System, then the operator provides socialization and training to all educators at SMA N 1 Pangandaran.

The characteristics of implementing agents relate to competence or performance or division of tasks among implementers. A person is said to be competent or have performance when they can carry out their duties well. Based on interview results, it is known that the division of tasks among E-Raport system implementers has been running well; all implementers have their respective tasks in using the E-Raport system and all have carried out their duties well. In the implementation of the E-Raport information system, the implementing agents are the vice principal for curriculum, the operator, and the teachers.

c. Inter-Organizational Communication

Coordination is a powerful mechanism in the success of implementation, including

the implementation of the E-Raport information system. The better the coordination communication among the parties involved in an implementation process, the fewer errors are assumed to occur, and vice versa. Based on interview results, communication among E-Raport information system implementers runs well, because at SMAN 1 Pangandaran they routinely hold FGDs (forum group discussions), which are held routinely once a month. The forum always discusses learning evaluation or discusses new programs or regulations. Discussion through this group is considered quite effective in improving communication among teachers.

d. Disposition of Implementers

The attitude of implementers will greatly influence an implementation, including the implementation of the E-Raport System. If the implementers have good attitudes and support, then the implementers will be able to carry out the policy well according to the objectives that have been set; conversely, if their attitude is not good, then in carrying out their duties it will not be good. Based on interview results with informants at SMA N 1 Pangandaran, it is known that teachers as educators strongly support the implementation of this system because with this system grade processing becomes more effective and efficient. Likewise, the principal also supports the implementation of the E-Raport system at SMA N 1 Pangandaran.

This is in line with the theory of Van Meter and Van Horn (in Agustino, 2012:143) which states that acceptance or rejection from (agent) implementers will greatly influence the success or performance of public policy implementation. The tendency or attitude of policy implementers plays an important role in realizing policy implementation that is in accordance with the objectives of the policy itself. This is also strengthened by the research of Erna Widia Utami (2025) which highlights the support of educators as a factor that helps overcome technical and operational obstacles.

e. Social, Economic, and Political Environment Conditions

The external environment in the implementation of the E-Raport system is support from students, parents or guardians of students, and also from the government, namely from the Education Office. Based on interview results, it is known that the implementation of the information system at SMA N 1 Pangandaran receives quite good support from the external environment, especially from students and parents, as seen from the implementation of the E-Raport that has been running for years without any complaints or criticism regarding student grades managed using the E-Raport system.

Advantages and Weaknesses of the E-Raport Information System

(1) System Advantages

The advantages of the E-Raport information system in student data processing are:

- (a) Accessibility, ease of access anywhere and anytime, because the E-Raport is digital so teachers can access it anywhere and anytime, and can also use their own gadgets/phones.
- (b) Flexibility, ease of correction if there are input errors; errors may occur including in the process of inputting student grades, but with the E-Raport system they can be easily corrected. Not only that, another ease is that it is easy to reprint if there is damage or loss; report cards that have been printed but are damaged or have missing parts can be reprinted because the data is still stored in the system.
- (c) Integrated with Dapodik, or the Education Data Base, which is the source of student data, so with its connection to the E-Raport system, the operator

does not have to re-enter student data one by one.

(2) System Weaknesses

Not only having advantages, this system also has several weaknesses that require improvement to be more effective and efficient. The weaknesses of the E-Raport information system at SMA N 1 Pangandaran include:

- (a) The application must have a good network; the network is something important to be able to run an application, so if the network is not good, it will hinder the operation of the system.
- (b) The E-Raport application has not provided access to parents and students; this E-Raport application can only be accessed by teachers and operators because grades are a sensitive matter.
- (c) Grade data from subject teachers are sometimes not synchronized with what is in the application. In the input of student grades, sometimes the grades in the manual data of subject teachers are not synchronized with what is in the system, so greater care is needed in the grade input process.

4. DISCUSSION

The implementation of the E-Raport Information System at SMAN 1 Pangandaran shows that the success of digital transformation in student grade management is not only determined by the availability of technology, but also by the effectiveness of implementation management involving various organizational components. Based on the Van Meter and Van Horn policy implementation model, the implementation of the E-Raport has fulfilled most of the variables that determine the success of policy implementation, namely clarity of objectives, availability of resources, characteristics of implementers, inter-organizational communication, disposition of implementers, and support from the external environment. The integration of these six variables produces a grade management system that is more effective, efficient, and accountable compared to the manual system previously used.

Clarity of objectives becomes the main foundation for the successful implementation of the E-Raport at SMAN 1 Pangandaran. The research results show that the implementation of this system is a follow-up to the school digitalization policy proclaimed by the Ministry of Education, as well as the school's strategy in improving the effectiveness of academic administration management. The clarity of this policy direction makes all school members have the same understanding regarding the importance of digital transformation in student data management. This finding strengthens Van Meter and Van Horn's view that policy standards and objectives formulated clearly will facilitate implementers in translating policy into operational actions so as to minimize differences in perception during the implementation process.

The success of implementation is also supported by the readiness of resources possessed by the school. Infrastructure in the form of internet networks, computer devices, and applications integrated with Dapodik are available and utilized optimally. No less important, the school has prepared human resources through operator training which is then continued with socialization to all teachers. This strategy shows that digital transformation is not only oriented toward technology provision, but also toward improving user competence as the main managers of the information system. This finding is in line with Sudirman's (2020) opinion which emphasizes that an information system is a combination of technology and humans as users (brainware), so the success of

implementation is very much determined by the ability of human resources in operating the system. Thus, technology readiness without followed by capacity building of users will not produce optimal implementation.

Clear division of tasks among the vice principal for curriculum, school operators, and subject teachers also becomes a factor that strengthens the implementation of the system. Each implementer has different responsibilities according to their competence so that the process of inputting, processing, to validation of grades can run systematically. This condition shows that the characteristics of organizational implementers have a significant influence on the effectiveness of policy implementation. An organized work structure is able to reduce overlapping work while accelerating the resolution of various technical problems that arise during system use.

Communication among implementers becomes one of the most prominent aspects in this study. The Forum Group Discussion (FGD) held routinely every month has proven to be an effective coordination medium in evaluating learning implementation as well as resolving various technical obstacles related to the use of the E-Raport. Open communication allows teachers, operators, and school management to exchange information and seek solutions to various problems faced. This finding shows that the implementation of an information system does not only depend on the sophistication of the application, but also on the quality of organizational communication that is able to create a collaborative culture. This research result strengthens Van Meter and Van Horn's theory which states that effective inter-organizational communication will increase consistency in policy implementation and minimize the occurrence of errors in its execution.

The positive attitude of implementers toward the implementation of the E-Raport also becomes a determining factor for the success of implementation. Teachers and principals view this system as an innovation that is able to simplify the grade management process so that administrative work becomes faster and more efficient. This support shows a low level of resistance to change that is generally an obstacle in information technology implementation. This condition is in line with the research results of Erna Widia Utami (2025) which states that the acceptance of educators toward digital systems is an important factor in reducing technical and operational obstacles during the implementation process. Consistent support from school leadership also shows the importance of leadership in building a digital culture in the educational environment.

The external environment also contributes to the success of system implementation. The research results show that students, parents, and the Education Office provide positive support for the use of the E-Raport. The absence of significant complaints from parents during the implementation of the system indicates that the digitalization of grade management has been accepted as part of improving the quality of educational services. This support shows that the success of policy implementation is not only influenced by internal organizational factors, but also by the level of community acceptance as users of educational services.

The implementation of the E-Raport also provides various real benefits to academic data management. System accessibility allows teachers to input grades anytime and anywhere using the devices they own so that the administration process becomes more flexible. The ease of correcting data if input errors occur, the ability to reprint report cards, and integration with Dapodik show that the system has been able to improve work efficiency while reducing duplication of data processing. This integration not only accelerates the administration process, but also improves data accuracy because student identities are obtained automatically from the national database. This finding shows that

the utilization of information systems has changed school administration work patterns to be more effective and data-based.

This study also found several obstacles that still require attention. The system's dependence on internet network quality becomes the main challenge in the implementation of the E-Raport. When the internet connection experiences disruption, the process of inputting or synchronizing data becomes hampered so that it has the potential to disrupt the completion of academic administration. This condition shows that the success of digital transformation is still very much influenced by the readiness of technology infrastructure that supports system operations sustainably.

Limited system access for parents and students also becomes one of the important findings in this study. Currently, the E-Raport can only be accessed by teachers and school operators so that parents still depend on learning outcome reports distributed at the end of the semester. From the perspective of digital-based public services, this condition shows that the implementation of the system is still oriented toward internal administration digitalization and has not yet developed into a participatory information service system. The provision of limited access (read only) for parents in the future has the potential to increase transparency while strengthening communication between the school and the family in monitoring student learning development.

Another problem found is the continued occurrence of discrepancies between grade data possessed by teachers and data stored in the application. This finding shows that although the system has been computerized, the quality of information produced still depends on the carefulness of users in carrying out the data input process. In other words, digitalization has not completely eliminated the potential for human error. Therefore, the school needs to develop quality control mechanisms through data verification and validation processes before grades are ratified into the system. This step is important to maintain the accuracy of academic information while increasing trust in the system used.

This study provides a new contribution to the study of educational information system implementation, particularly by showing that the success of the E-Raport is not solely influenced by technological sophistication, but is more determined by the integration between policy clarity, readiness of human resources, intensive organizational communication, supportive leadership, and collaborative culture in the school environment. This finding expands the perspective of Van Meter and Van Horn's policy implementation in the context of educational digitalization, where organizational and human factors are proven to have an equally important role with technological aspects. Thus, digital transformation in the school environment is not enough to only be oriented toward application provision, but must be built through strengthening organizational governance, improving user competence, and a sustainable evaluation system so that the benefits of information technology can be felt optimally in improving the quality of educational services.

5. CONCLUSION

The implementation of the Student Grade Data Processing Information System Based on the E-Raport Application using the Van Meter and Van Horn policy implementation theory, the researcher concludes that this E-Raport system has been implemented well. This is proven by the fulfillment of the indicators that influence implementation. Based on data obtained from interviews, documentation, and literature studies from the six factors above, it can be concluded that these six factors support each other in the implementation of the E-Raport system so that it can be implemented well. The E-Raport system has several

advantages and weaknesses; the advantages of this system are ease of access, ease of correction if there are errors, and it can be reprinted if lost or damaged, as well as being integrated with Dapodik. Meanwhile, the weaknesses of this E-Raport system are that it requires a good network, grade input errors, and the absence of features that can be accessed by parents in the E-Raport application.

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