Use of Microsoft Excel as Student Value and Data Management at SDIT Al Uswah Pamekasan

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Abstract

This study discusses the use of Microsoft Excel in the management of student grades and data at SDIT Al Uswah Pamekasan. Along with the rapid development of information technology in the Industrial Revolution 4.0 era, educational institutions are required to optimize the use of technology to improve the efficiency of academic administration. Using a descriptive qualitative approach, data were collected through interviews, observations, and documentation. The results of the study indicate that Microsoft Excel is effective for recording daily grades, midterm and final exams, attendance, and student data recapitulation. The use of Excel provides various benefits, such as work efficiency, increased data accuracy, professional data presentation, and encouraging teachers' technological skills. However, there are challenges in the form of digital literacy inequality among teachers and minimal formal training. Therefore, ongoing training and technological assistance are needed to optimize the use of Microsoft Excel in elementary school environments.

Keywords – Management; Microsoft Excel; Student Data; Information Technology

1.   Introduction

The rapid development of information technology in the era of the industrial revolution 4.0 has had a major impact on various areas of life, including education. The world of education is required to be able to adapt to technology in order to improve the quality of administrative and learning services. One form of this adaptation is the use of technology-based applications, such as Microsoft Excel, to support education management, especially in managing student grades and data (Widodo, 2013). Data management in the world of education, especially at the Elementary School (SD) level, is very important to support the effectiveness of student administration management, starting from recording academic grades, attendance, to various other administrative data. Neat, accurate, and easily accessible data not only makes the teacher's job easier, but also becomes an important basis for decision-making by the school. Without good data management, many aspects of education administration are hampered, which ultimately impacts the quality of education services to students (Sulistyowati, 2019).

Microsoft Excel as one of the most popular spreadsheet programs offers various advantages in terms of data processing. Features such as automatic calculation formulas, data visualization graphs, pivot tables, and the ability to perform simple data analysis make Excel an ideal tool to support data management in schools. By utilizing Excel, teachers can save time in managing grades, minimize the possibility of calculation errors, and produce professional and systematic reports (Yuliana, 2020). SDIT Al Uswah Pamekasan, as an Islamic-based elementary education institution in Pamekasan Regency, has shown initiative in integrating the use of Microsoft Excel in its student data management. Based on the results of observations and interviews, it is known that although teachers at SDIT Al Uswah did not receive intensive formal training, they were able to utilize Microsoft Excel well through independent learning and collaboration between fellow teachers. Excel is actively used to record daily grades, midterm exams, final semester exams, student attendance, and

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recapitulation of other school administration data. The use of Excel in this school has been proven to increase teacher work efficiency. Processes that previously took a long time in manual recording can be completed more quickly and accurately. In addition, student data can be stored digitally and easily updated or accessed at any time, which of course supports administrative transparency in the school environment.

However, the use of Microsoft Excel at SDIT Al Uswah also faces a number of challenges. One of the main obstacles is the uneven distribution of technological literacy among educators. Not all teachers have the same technical skills in operating Microsoft Excel, so in some cases support is needed from other teachers who are more proficient. In addition, the use of technology that is not yet optimal also hinders the optimization of advanced features of Excel, which can actually increase work efficiency. The existence of these challenges indicates that it is important to conduct regular information technology training for educators. This training not only focuses on the basic use of Excel, but also on the use of advanced features such as creating simple databases, data analysis, and using macros to automate repetitive tasks. With more adequate skills, teachers can manage data more effectively and support the achievement of educational goals in schools. In addition to technical aspects, the use of technology also has implications for the formation of student character. Dependence on technology in accessing information without being accompanied by responsible attitude development can have a negative impact on the development of student character. Therefore, the application of technology in schools needs to be balanced with strong character building efforts, such as instilling the values of responsibility, independence, and wise digital literacy (Husamah, 2015). Based on this explanation, it is important to conduct research on how to use Microsoft Excel in the management of student grades and data at SDIT Al Uswah Pamekasan. This research is expected to provide a comprehensive picture of the benefits, challenges, and solutions that can be applied to improve the use of technology in education, especially at the elementary school level.

2.   Method

This study employs a qualitative approach with a descriptive research design. The qualitative approach was selected because the research aims to comprehensively understand and describe the use of Microsoft Excel in managing student grades and administrative data at SDIT Al Uswah Pamekasan. Descriptive qualitative research enables researchers to depict real-world conditions based on informants' experiences without manipulating variables (Moleong, 2017). The study participants consisted of teachers and school administrators at SDIT Al Uswah Pamekasan who were involved in managing student data using Microsoft Excel. Informants were selected through purposive sampling, targeting individuals with direct experience and expertise in using Microsoft Excel within the school.

Data collection methods included interviews, observations, and documentation. Semi-structured interviews were conducted with two teachers and one school administrator to gather insights into their experiences with Microsoft Excel, including its benefits and challenges. Additionally, direct observations were carried out to examine how teachers input and manage student data using Excel, providing a firsthand understanding of its practical application. To supplement the data, documentation—such as photos of Excel usage, processed grade reports, and administrative records—was collected and analyzed.

For data analysis, this study applied Miles and Huberman's (2014) interactive model, which consists of three key stages: data reduction, data display, and conclusion drawing. During data reduction, researchers sorted and summarized essential data. The findings were then presented in a structured narrative to enhance clarity. Finally, conclusions were drawn based on emerging patterns and trends in the analyzed data. To ensure data validity, the study employed triangulation—both source triangulation (cross-checking information from multiple informants) and methodological triangulation (combining

interviews, observations, and documentation). This approach strengthens the reliability and academic rigor of the findings.

3. Result and Discussion

a. *Using Microsoft Excel as a Management Tool for Student Grades and Data Management*

Information and communication technology (ICT) has now become an important need in the world of education, not only in learning but also in aspects of school administration. One of the applications that is widely used to support academic administration is Microsoft Excel. Based on the results of research at SDIT Al Uswah Pamekasan, Microsoft Excel is actively used to manage student grades and data. Teachers use this application to record daily grades, midterm exams, final exams, attendance, and compile various administrative reports required by the school.

Microsoft Excel was chosen because it offers ease of use of formulas, automatic data processing, and the ability to produce dynamic graphs and tables (pivot tables) which are very helpful in analyzing student data (Widodo, 2013). The use of Excel allows large and complex data to be processed quickly and accurately. As stated by Pratama and Astuti (2022), the existence of automation features in Excel makes it easier for teachers to manage various types of data, thereby speeding up the administrative work process.

In addition, Excel also allows digital data archiving, making it easier to search for data (retrieval) whenever needed. In the context of SDIT Al Uswah, the use of Excel does not stop at recording grades, but also extends to managing student databases, recapitulating attendance, and processing student extracurricular data. This supports the opinion of Yuliana (2020) who emphasized that spreadsheet applications such as Excel are very effective for use in managing school administration, especially at the elementary education level which does not yet require a database management system that is too complex. By using Excel, SDIT Al Uswah Pamekasan shows that simple yet

effective technology can support teacher professionalism in managing educational administration better.

b. *Benefits of Using Microsoft Excel in Managing Student Grades and Data*

The use of Microsoft Excel in managing student grades and data provides various significant benefits, both for teachers, students, and the school as a whole. The first benefit is work efficiency. Through the use of various formulas and automation features such as SUM, AVERAGE, IF, and VLOOKUP, teachers can calculate grades, determine student rankings, and summarize attendance in a much faster time compared to manual recording (Sulistyowati, 2019).

The second benefit is increased data accuracy. In manual data management, the possibility of calculation errors is very high. With Excel, these errors can be significantly reduced because calculations are carried out automatically by the system. This is in line with Syafi'i's opinion (2020) that computerized data management helps reduce human error in educational administration.

The third benefit is professional data presentation. Excel allows student data to be presented in various visual forms such as tables, bar charts, pie charts, or line graphs. This presentation makes it easier for principals or homeroom teachers to analyze student academic data and make data-based decisions (Nasution, 2018).

In addition, the use of Excel also contributes to increasing administrative transparency. Student data that is stored neatly and accurately can be easily accessed by related parties such as homeroom teachers, principals, and parents of students. According to Arikunto (2013), transparency in educational administration is an important part of building public trust in educational institutions. No less important, the benefits of using Excel also encourage the development of teachers' technological skills. Teachers at SDIT Al Uswah Pamekasan, although self-taught, finally have new skills in using data processing software, which is very useful in this digital era.

c. *Challenges of Using Microsoft Excel in Managing Student Grades and Data*

Despite its many benefits, the use of Microsoft Excel in elementary education environments such as SDIT Al Uswah Pamekasan is not free from various challenges. One of the main challenges is the inequality of digital literacy among teachers. Not all teachers have the same level of technological skills. There are teachers who are only able to use basic Excel functions, while a small number of others master advanced functions such as creating pivot tables or validating data (Sari & Hendri, 2021). This inequality makes the effectiveness of Excel use less than optimal.

Another challenge is the lack of formal training provided by the school. Teachers at SDIT Al Uswah mostly rely on independent learning or assistance from colleagues. In fact, according to Sugihartono (2014), formal structured training is very important to improve the competence of using ICT in education. Without targeted training, the use of Excel tends to be limited to only basic functions, without utilizing its maximum potential.

In addition, there are challenges from the cultural aspects of the school organization. The change from a manual system to a digital-based system requires a change in the habits and mindset of the entire school community. Not all teachers immediately feel comfortable switching to a technology-based system. This is in line with the findings of Semiawan (2010) who stated that resistance to technological change in education often arises due to uncertainty or lack of understanding of new technology.

From the student's perspective, excessive use of technology without guidance can also lead to a decrease in personal responsibility and initiative. Students' dependence on digital media can reduce the habit of taking notes, actively seeking information, and compiling reports independently (Husamah, 2015). Therefore, to overcome these challenges, an integrated strategy is needed. Schools need to conduct ongoing training, provide technology assistance, and develop a balanced technology utilization policy between digital administration and character building. With this approach, the use of

Microsoft Excel in education can be optimized to support the achievement of better educational goals.

4.   Conclusion

The results of the study indicate that the use of Microsoft Excel as a management tool for managing student grades and data at SDIT Al Uswah Pamekasan can improve the efficiency and accuracy of teachers' work in educational administration. Excel is not only used for recording grades, but also for attendance, student data recapitulation, and the preparation of systematic academic reports. Excel's advantages in providing calculation automation and data visualization features make it an effective tool even though it is relatively simple. However, the challenges faced include the inequality of digital literacy among teachers and the limited formal training from institutions. Therefore, the successful implementation of this technology requires school policy support in the form of ongoing training and technical assistance. In addition, the integration of information technology in elementary schools needs to be accompanied by strengthening student character so that the use of technology does not reduce the values of responsibility and independence.

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