Using Microsoft Excel in Recapitulating Student Scores for Primary Teachers

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Abstract

The purpose of implementing the Community Prescription was to increase the knowledge and skills of teachers in SD N 1 and 2 Setu using Microsoft Excel to recapitulate student data and values so that this is a solution for teachers and admin staff. They no longer use manual methods. The implementation of this activity is carried out in three stages: preparation, performance, and evaluation. The implementation stage starts with the basics of using Microsoft Excel. At the preparation stage, the community service team was surveyed to determine the conditions and analyse the places to use. Next, the team prepares the material to be given in providing training to community service participants. This service activity involves presentations, lectures with questions and answers, and practice. While delivering the material, the community service team conducted a question-and-answered session with the participants, who were expected to interact with the servants and the participants. The last stage is the evaluation stage. The community service team gives the participants time to make examples of inputting data and student grades in the rankings.

Keywords: microsoft; excel; recapitulate; student; scores

INTRODUCTION

Law of the Republic of Indonesia number 20 of 2003 concerning the National Education System Chapter XVI articles 57 to 59 concerning evaluation states that in the context of controlling the quality of education nationally, evaluation is carried out as a form of accountability of education providers to interested parties. Furthermore, this Law states that
independent institutions carry out evaluations on a regular, comprehensive, transparent, and systematic basis to assess the achievement of national education standards. These evaluation activities can be carried out correctly if the evaluation/assessment is carried out professionally and institutionally. Educational evaluation is carried out by teachers, schools, and the government. Until 2019, the government conducted a national education assessment through the National Examination at the end of the level (Kemendikbud, 2020).

Education in the 21st century must ensure that students have the skills to learn and innovate, use and utilise information technology and media, and work and survive using life skills. These life skills are then known as the concept of 21st-century skills. 21st-century skills are developed through (1) critical thinking and problem-solving skills, (2) communication skills, (3) creativity and innovation skills, and (4) collaboration skills (collaboration). Several organisations and institutions have attempted to formulate and explain the competencies and skills needed to face 21st-century life. The US-based Partnership for 21st Century Skills (P21) identified the competencies needed in the 21st century as “The 4Cs: communication, collaboration, critical thinking, and creativity” (Kemendikbud, 2020).

One of the prerequisites for realising 21st-century life skills is students' literacy ability. The National Institute for Literacy explains that literacy is a person's ability to read, write, speak, calculate, and solve problems at the level of expertise required in work, family, and society. The World Economic Forum (2015) stipulates six basic literacies, namely (a) reading and writing literacy, (b) numeracy literacy, (c) scientific literacy, (d) digital literacy, (e) financial literacy, and (f) cultural and social literacy (Kemendikbud, 2020).

Minister of Education and Culture Number 23 of 2015 concerning the Growth of Character. Character development and strengthening literacy activities are essential elements in the progress of a country in living life in the era of globalisation. Therefore, to improve the quality of life, competitiveness, and development of national character, as well as to see the development of skills and competencies needed in the 21st century, the Ministry of Education and Culture 2016 has organised various literacy activities through the National Literacy Movement as part of the implementation of Regulations. The general objective of the National Literacy Movement is to foster a literacy culture in the educational ecosystem, starting from families, schools, and communities in the context of lifelong learning to improve the quality of life (Kemendikbud, 2020).
To prepare students who have 21st-century skills, the government will conduct a minimum ability assessment (MCA) in 2021, which includes a review of reading and numeracy literacy, namely an estimate of the ability to reason using language (reading literacy) and an assessment of the ability to maintain using mathematics (numbering). Reading literacy is not just the ability to read literally without knowing the content/meaning of the reading, but the ability to understand reading concepts. Meanwhile, numeracy is not just the ability to count but the ability to apply the idea of measuring in a context, both abstract and real. The MCA can produce skill maps on reading literacy and numeracy of students in grades 5, 8, and 11 that can be used to improve the learning process in education units. Assessment in the MCA refers to the benchmarks in the Program for International Student Assessment (PISA) and Trends in International Mathematics and Science Study (TIMSS). Therefore, the questions developed for the MCA are contextual, take various forms of questions, measure problem-solving competence, and stimulate students to think critically. The MCA questions will make students generate analytical power based on information, not make students memorise or remember the material (Kemendikbud, 2020).

Reading literacy is the ability to understand, use, evaluate, and reflect on written text forms that are needed by society or valued by individuals. Readers can construct meaning from texts in various forms. They read to develop their knowledge and potential and participate in society as citizens of Indonesia and the world (Kemendikbud, 2020).

The ability of individuals to understand texts is influenced by their skills and ability to process information. Reading literacy skills for students must be improved. With their literacy skills, students are required to reflect on various important information obtained for participating in the science and technology environment and for self-capacity development. In addition, reading literacy skills are also expected to shape character, explore critical and creative thinking skills, and foster positive participation in communication and collaboration (Kemendikbud, 2020).

In the current information age, reading literacy activities require higher thinking (higher-order thinking). The development of the world of science requires high cognition because of increasingly fierce social and economic competition. In addition, students are currently on the path of general and easy-to-access false information (hoax). Therefore, it is necessary to have adequate reading literacy skills to overcome the various social and academic problems they face (Kemendikbud, 2020).
An important aspect in implementing the Minimum Competency Assessment (MCA) on reading literacy is the availability of text or reading that will be used as a stimulus in preparing questions. The text or reading must meet the criteria for a good level of readability and quality in terms of content, language, and presentation. If it is related to 21st-century life skills, the texts or readings used in MCA must be able to measure and develop critical thinking skills in problem-solving, communication, creativity and innovation, and collaboration (Kemendikbud, 2020).

The text content is grouped into literary and informational texts to prepare MCA questions. Through literary texts, students can get entertainment, enjoy stories, and reflect on living up to the problems of life offered by the author. On the other hand, through informational texts, students can obtain facts, data, and information to develop scientific insights and knowledge (Kemendikbud, 2020).

The broad context plays an important role so that students can understand, recognise, and use the information to enrich their knowledge, both as individuals and as part of a (social) society that is always evolving with the development of science and technology. Students are expected to be able to reflect on various information in their lives. Thus, the readings used in preparing the MCA questions must be able to develop students' individual and social potential and, at the same time, be useful in solving problems in their lives, society, and globally (Kemendikbud, 2020).

To achieve this, it is necessary to understand information close to students related to all aspects of life, regarding local, national, cultural, scientific, technological, and global wisdom. Therefore, MCA literacy reading materials can cover three contexts, namely (a) personal context, (b) socio-cultural context, and (c) scientific context (Kemendikbud, 2020).

Numeration is the ability to think using concepts, procedures, facts, and mathematical tools to solve everyday problems in various contexts relevant to individuals as citizens of Indonesia and the world. Numeration is defined as the ability possessed by a person to use his mathematical knowledge to explain events, solve problems, or make decisions in everyday life. This can help students recognise the role of mathematics in real life so that they can make the necessary judgments and decisions and become responsible human beings who can reason or think logically (Kemendikbud, 2020).
It is very important to use a broad context in Numeration MCA so that students can recognise the role of mathematics in everyday life. The choice of strategy and using concepts, procedures, facts, and mathematical tools to explain events, solve problems, or make decisions depend highly on the context in which the event or problem arises. The Numerical MCA context includes contexts close to students’ world, society, culture, environment, science, and mathematics. These contexts are categorised into personal, socio-cultural, and scientific (Kemendikbud, 2020).

The development of information technology has encouraged educational people to use it in education. Information technology has enabled curriculum changes, including differences in objectives and content, learning activities, exercises, assessments, learning outcomes, and positive added values. It follows the opinion of Boeykens et al. (2015), who states that information technology has a vital role, especially in education.

The part of information technology in the field of education includes: (1) supporting the development of knowledge for students, (2) one of the means of information that is very supportive in the learning process of students, and in terms of searching and identifying the information needed by students, (3) used as a tool in improving the quality of education and schools that implement it, (4) helping to improve the effectiveness and efficiency of the teaching and learning process (students and teachers), (5) facilitating students in achieving educational goals, (6) the emergence of new learning methods, which makes it easier for students and teachers in the learning process and (7) teacher mastery of computers and the internet can support performance.

With the rapid development of technology in various fields, the world of education must adapt to follow stories. Teachers must adapt to follow developments. Teachers are the spearhead of the world of education, so to support their work which has now become a profession based on teacher and lecturer laws, all teachers must learn internet and computer technology. The teacher is a profession whose main task is to educate, plan, learn, teach, guide, direct, train, assess, and evaluate students—from early childhood to secondary education. Teachers must have pedagogical competence and professional competence. Therefore, it must be supported by mastery of the latest technology, especially computer and internet technology.

Boeykens et al. (2015) states that Microsoft Excel is a spreadsheet worksheet application released by Microsoft Corporation that can be run on Microsoft Windows and Mac OS. This
application has robust calculation and graphing features, so Microsoft Excel has become one of the most popular applications used in microcomputers until now. Microsoft Excel functions more to calculate and process data. The availability of various facilities in application programs such as those mentioned above would need to be responded to positively by teachers and admin staff so that computers can become one of the tools that can assist in expediting their duties.

Microsoft Excel 2013 governs the writing of the formulas that are very useful to recapitulate the value of the student or the administration, which will be presented in an interesting so that participants will be easy to understand and can be applied to teaching and learning activities of daily (Rahman et al., 2015). Through Microsoft Excel, financial reports can be prepared simply with a shorter cycle, from journaling to simple financial reports (Shohabatussa’adah & Muasomah, 2021).

The administrative apparatus of Sei Mencirim Village was very interested in the content of the training material because it contained tricks and tips on processing data and straightforward data filtering using Microsoft Excel (Rahayu et al., 2021). Microsoft Excel for simple bookkeeping of traditional retail business at Toko Cholid can increase knowledge for owners and employees, especially regarding the Microsoft Excel application, so that it is helpful to support business processes running at Toko Cholid Palembang (Novita et al., 2021).

The impact felt by the participants was that the training materials learned could be applied to their work in administration and reporting. Microsoft Excel features, such as mathematical functions, text, and logic, greatly assist their work in creating analyses and reports (Weli et al., 2021). Participants can understand and improve their knowledge in operating Microsoft Excel, completing reports, and serving the community (Ningsih & Dewi, 2020). Skills in computer applications, the Microsoft Office program and the Excel program, are not only for report cards but can be applied to teaching and learning, for example, teaching bookkeeping (Putri, 2015).

Participants can design reports using tables, present office information using diagrams, and process data effectively and efficiently (Rizaldi, 2019). People can easily practice how to manage data from calculations to reporting using Microsoft Excel so that the work will be completed faster when compared to the manual management (Kuswandi, 2021). The advantages of Microsoft Excel are simple, easy to install, and easy to use. They do not require
special software other than Microsoft Excel, a Spreadsheet application widely used by our society (Hermawati & Armin, 2021).

The utilisation of technology media, especially Microsoft Excel, is used in offices and academia and socialisation within youth organisations, which is very helpful in processing numbers using spreadsheets consisting of rows and columns of data. Many users of this Microsoft Excel application use it to communicate as a communication medium, from information givers to information recipients. Youth organisations can directly be created through the mathematical administration data collection (Julaeha & Somawati, 2019).

Teachers are expected to be able to demonstrate understanding of the mathematical concepts being studied, explain the interrelationships between concepts, and apply concepts or algorithms in a flexible, accurate, efficient, and precise manner in problem-solving by utilising Microsoft Excel; teachers are expected to plan and use Microsoft Excel in teaching and learning activities regularly so that students get learning experiences from learning resources related to material outside the teacher;

The principal or school manager is expected to facilitate the use of Microsoft Excel for learning and provide opportunities for teachers to take part in training in using Microsoft Excel so that they can use Microsoft Excel (Martiningsih, 2015). With the help of Camtasia Studio 4, Microsoft Excel can be used as a medium for learning physics to make it easier for students to solve biological and mathematical material (Arifin & Nuroso, 2011). Using problem-based worksheets with the help of Microsoft Excel has effectively completed 83% of student learning outcomes in computer program courses. In addition, using these worksheets also increases students' self-regulated learning in solving mathematical problems. In general, visual, oral, and vigorous activities have increased significantly compared to listening and writing activities (Santika et al., 2019).

The use of Microsoft Excel software as an alternative to statistical data processing for final-year students is in a suitable category. It can be used in completing the thesis or final project (Patmawati & Santika, 2016). As many as 74.2% of respondents categorise that using Microsoft Excel is quite effective in processing research data for final year students in the Department of Islamic Education Management, Faculty of Tarbiyah and Teacher Training, UIN Alauddin Makassar (Musdalifah et al., 2022).
SD N 1 & 2 Setu is one of the elementary level educational institutions with a total number of students of approximately 250. With a relatively large number of students, it was found that teachers in giving assessments to their students still use the manual method. Especially in calculating the final value, they still use the calculator contained in the cell phone application. If teachers use existing computer technology, in this case, a worksheet or spreadsheet application, the job of recapitulating values and calculating the final deal will be easier and more efficient.

Following a demonstration in training, the training participants' insight and knowledge, as well as their skills in using macro-VBA and Microsoft Excel, improved. In this activity, there was a fascinating discussion (David, 2019).

Using Microsoft Excel to compile financial reports is very error-prone. It is due to the use of Microsoft Excel. Participants manually entered the data. Microsoft Excel cannot repair itself if an error occurs and the resulting data is invalid. Furthermore, other constraints on human resources, such as BUMDes management's accounting knowledge, are still minimal because accounting has never been socialised (Ogearti, 2020).

Training participants can recognise and use Microsoft Excel to process and present data in the form of graphs or charts (Setyowati, 2019).

Teachers at SDK St. Arnoldus Penfui became skilled in using Microsoft Excel to make attendance records and lists of student learning outcomes (Odja et al., 2021).

Class XII students become more competent and able to create their GUI-based applications to compete in the world of work and increase their knowledge in the science of making applications (Hanafi et al., 2022).

The community service activity improved students' abilities and skills using Microsoft Excel in data processing, analysis, and statistical diagramming. With this training, students gain new skills and competencies regarding problem-solving in the mathematics (Fadhillah et al., 2021). Based on the above situation, the community service team from Universitas Indraprasta PGRI is committed to carrying out community service activities at SD N 1 & 2 Setu.
METHODS

The method that will be carried out in this activity is through several stages: (a) Direct observation, the servant directly comes to the service location to obtain data. We do this before and during the activity. Words help know the condition of the teachers at SD N 1 & 2 Setu and determine what instruments are needed in training using the theme of using Microsoft Excel in recapitulating student scores. Observation is critical to realise the success of the community service activity itself; (b) The workshop, according to Papadopoulos et al. (2009), stated that the community service team carried out introductions, procedures, and simulations in training the theme of using Microsoft Excel in recapitulating student scores. After the teachers are trained, a simulation is carried out to see and evaluate the situation when the teacher applies it.

RESULTS AND DISCUSSIONS

The Principal of SD N 1 & 2 Setu was permitted to carry out community service activities, and the implementation of the training began for community service activities with the theme of using Microsoft Excel in recapitulating student scores. After getting permission from the school, we began to prepare and do training material modules according to the number of participants who would attend the training. From the data obtained, the number of participants participating in this training is about 20 elementary school teachers 1 & 2.

DELIVERING THE MATERIALS

The material introduces how to use Microsoft Excel and the basic formulas used in recapitulating student scores. This training activity was carried out in SD N 1 & 2 with as many as 20 participants. They were very enthusiastic about participating in the Microsoft Excel training from the beginning to the end of the activity. The community service implementation was carried out for 4 x meetings. They were very enthusiastic about participating in the Microsoft Excel training. The performance of community service went smoothly. It was proven that participants could apply the formula to create a student score recapitulation form in a relatively short time.

The first meeting of the community service material presented was about introducing the basics of Microsoft Excel. The SD N 1 and 2 Setu teachers were enthusiastic about participating in this activity. Here are pictures of the activities:
The second meeting of the community service material presented was about introducing Microsoft Excel formulas for inputting student data. The SD N 1 and 2 Setu teachers were enthusiastic about participating in this activity. Here are pictures of the activities:
The third meeting of the community service material presented was about the introduction of Microsoft Excel formulas about the formulas used in inputting values made in rankings. The SD N 1 and 2 Setu teachers were enthusiastic about participating in this activity. Here are pictures of the activities:
In the fourth meeting, the material presented by the community service team was about introducing Microsoft Excel formulas for practice and final evaluation. The SD N 1 and 2 Setu teachers were enthusiastic about participating in this activity. Here are pictures of the activities:
RESULTS OF COMMUNITY SERVICE IMPLEMENTATION

Using Microsoft Excel to recapitulate data and student scores at SD N 1 and 2 Setu was implemented by a team of 5 people from Universitas Indraprastha PGRI. The training site was held in the teacher's room at SD N 1 and 2 Setu. The following results are obtained based on the training that has been carried out. Teachers have been able to design Microsoft Excel to recapitulate student data so that teacher performance can be maximised. Teachers and staff have been able to create Microsoft Excel to recapitulate student scores so that their performance is maximised.
CONCLUSIONS AND SUGGESTIONS

Community service training with the theme of using Microsoft Excel in recapitulating student data and scores to improve teacher performance at SD N 1 and 2 Setu was successful. Based on the results of the feedback obtained, information that this activity is very relevant to the needs of the participants. They feel that they get insight and skills that are applicable and useful. In addition, they also felt happy with the training techniques and methods applied during the training. The skills trained and possessed by the participants are beneficial to support the teacher performance system at SD N 1 and 2 Setu.

Given the wide range of materials, the time provided feels less. Therefore, it is recommended that those responsible for improving the quality of human resources. In this case, teachers and administrative staff at SD N 1 and 2 Setu apply Microsoft Excel in their daily lives so that the formulas that have been obtained are not quickly forgotten. It is hoped that participants will gain more comprehensive insight and experience.

REFERENCES


