

# Microsoft Excel Training for Data Processing for Vocational High School Students

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## ARTICLE INFO

### Article history

Received October 7, 2021

Revised October 12, 2021

Accepted October 23, 2021

Available Online November 27, 2021

### Keywords

Training  
Microsoft  
Excell  
Management  
Data

## ABSTRACT

Microsoft Excel as one of the programs owned by Microsoft Office is needed to support the needs of daily activities. This program is already familiar to students and college students. Their knowledge about the use of functions in Microsoft Excel is not optimal, they still need additional knowledge about their use. On this basis, Microsoft Excel training was conducted. This training is held for Vocational High School (SMK) students who are participating in the Industrial Work Program. The methods used in providing training are lectures, discussions, practicums and evaluations. At the time of implementation, participants immediately did practical work by completing practice questions in the form of cases. The training materials cover Microsoft Excel theory, implementation of functions and graphing. The result of this training is that the participants have an increased understanding and ability to process data using Microsoft Excel. The score achieved by participants as much as 87% got a score above the minimum average that has been determined.

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## 1. Introduction

Microsoft office has several programs, one of which is Microsoft Excel, which is needed in daily activities, Microsoft Excel is used to help complete office work, especially activities related to processing numbers and graphics. This program is also used in learning activities, for example in mathematics, arithmetic, statistics, accounting and other subjects related to counting.

Microsoft excel has benefits and uses, among others, for making budgets, calculating, and making graphs, this program was first introduced in 1987 which was known as excel version 2.0. As a data processing application in the form of numbers, Microsoft Excel has many important functions. Data processing using Microsoft excel is needed by Vocational High School (SMK) students to support when carrying out industrial



<https://doi.org/10.22219/dedikasi.v18.i2.18305>



<http://ejournal.umm.ac.id/index.php/dedikasi>



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work practice programs and at work.

The STMIK PPKIA Lecturer Team Pradnya Paramita (STIMATA) carried out community service with the aim of increasing the skills of vocational students by providing training to process data using Microsoft Excel. This training is one of the activities in fulfilling the tridarma task of higher education to provide training to vocational students in order to add insight and knowledge in processing report data that is neatly organized and automatically formatted properly.

Based on the results of interviews with vocational students who take part in the industrial work program at STIMATA in connection with the training, they still do not understand and know the use of Microsoft Excel to process data, for example, to use arithmetic operations they still use basic operations, do not know if they can calculate quickly using the same function. It's in the Microsoft Excel program.

This training is also provided based on several previous trainings that have been held and the results show that Microsoft excel training provides increased skills for vocational students in processing numerical data [1]. Increased competence in data processing using Microsoft Excel for students at the Community Learning Activity Center, the result of this training is the average score obtained is "A" and this means that there is success from training to increase the ability to use Microsoft Excel for students [2]. Microsoft Excel training can improve data processing skills for students [3].

This shows that the knowledge possessed is still not optimal. The problems experienced by vocational students are considered very necessary and important to get attention, thus encouraging the STIMATA lecturer team to provide Microsoft Excel training that can help to collect data, and also add experience and knowledge that will be useful later in the world of work.

## 2. Methods

This training activity is carried out with the aim of increasing the skills of vocational students in processing data using Microsoft Excel. This training was carried out at the STMIK PPKIA Pradnya Paramita Laboratory, which played an active role in the activities, namely: lecturers as a service team, assistants and vocational students as partners in training. Learning methods can be held in lectures, discussions, study in the laboratory or practicum [4]. Implementation using the following methods :

### a. Interview

Before determining the type of training to be delivered to SMK students, the service team held a preliminary interview. The result is that participants are not fully able to operate and apply the functions in Microsoft Excel that can be used to process the interview data proposed by Slamet in Fandi, namely the relationship made by the researcher and the object under study to obtain information [5]

### b. Presentation

The training was carried out by delivering training materials and introducing Microsoft Excel to process data. This lecture method is given by explaining and delivering material by the presenters carried out by the service team using computer-based learning media to SMK students.

### c. Discussion

This discussion method aims to help participants solve the problems encountered, provide answers to questions and help provide understanding of the material that has been received through lectures that have been delivered by the presenters. This discussion provides an opportunity for participants to be active in communicating with both presenters and fellow participants to share their knowledge so that participants gain additional insight from various points of view based on their knowledge.

Discussions can provide agreement, its importance and jointly make decisions to solve a problem, the discussion forum cannot be separated from questions and answers from discussion members [6].

### d. Internship

This activity is carried out by participants by practicing the material that has been obtained. The implementation of the practicum by means of training participants are given sample questions, then they are given case questions to be solved in accordance with the allotted time. This practicum is assisted by an assistant whose job is to provide assistance for participants who do not understand how to operate the functions in Microsoft Excel. Practicum encourages students to be able to think, design, and grow new knowledge [7]

### e. Evaluation

This method is carried out after participants carry out practicum with various questions that must be solved. Furthermore, to determine the ability and understanding of the material that has been obtained, an evaluation is carried out. Learning evaluation is a continuous procedure to collect and interpret information in assessing to decide what has been made in the design of the teaching and learning process system [8]

## 3. Results and Discussion

The training participants come from various disciplinary backgrounds that are owned by the participants, namely from the Network, Multimedia, and Administration Engineering Program, this is a form of concern for the Service Team who is encouraged to provide additional knowledge in the field of computerized administration. Training to process data and numbers using Microsoft excel for teachers [9]. Training for Administrative Staff using Microsoft excel to process data results is that the participants of this training have increased skills in solving their task problems [10].

Discussions for the follow-up to improve data processing skills were carried out by the Service Team with accompanying teachers and student representatives. This discussion is intended to determine the materials needed to improve skills as one of the most important things to apply the knowledge gained when entering the world of work. Community service activities are provided in the form of incidental training for SMK students. One day training with a duration of 8 hours. The training material includes processing numerical data using functions and making graphs. Activities are carried out through implementation stages as presented in table 1.

Table 1 Stages of Training Activities

Number	Activity
1.	Preparation: a. Prepare training attendance list b. Application for a permit for community service activities to the Head of the STIMATA Information Technology Laboratory for the use of facilities in the laboratory c. Preparation of tools and materials as well as supporting facilities such as internet.
2.	Implementation of training activities: a. Opening and introduction to SMK students b. Submission of materials includes : <ul style="list-style-type: none"> <li>• Understanding Microsoft Excel</li> <li>• Microsoft excel functions</li> <li>• Merging Functions</li> <li>• Rounding Function</li> <li>• Text Function</li> </ul>
3.	Final Stage of Activities: a. Giving assignments in the form of solving problems b. Making reports on community service activities.

Indicators and training achievements in processing data using Microsoft Excel are in table 2.

Tabel 2 Capaian Kegiatan Pelatihan

Number	Activity	Result
1.	Delivery of Materials	1. Knowledge of the benefits of Microsoft excel in data processing 2. Increased understanding of the use of Microsoft excel functions to process data
2.	Evaluation of Training Materials	1. Participants can complete the questions on time. 2. Participants can complete functions and create graphs using Microsoft excel.

The training activities based on the indicators and achievements are as follows:

a. Submission of materials

The beginning of this activity are:

- 1) Prepare the laboratory along with the equipment used for training. Figure 1 laboratory conditions used for training



Figure 1 Computer Application Laboratory

- 2) Prepare the material delivered in the form of power point
  - 3) Delivery of training materials by presenters from the Community Service Team.
- Figure 2 Training Implementation



Figure 2 Training Activities

b. Evaluation of training materials

Material evaluation activities in this training include:

- 1) Prior to the evaluation, when receiving material from the participant presenters, they also work on practice questions.

2) At the end of the training, participants conducted an evaluation which was divided into two parts, namely:

- a) Participants take the exam in the form of multiple choice theory questions and essays
- b) Participants work on Microsoft Excel questions in the form of cases, including: Microsoft Excel Functions, Merging Functions, Rounding Functions and Text Functions.

The evaluation that has been carried out by the participants by carrying out the exam has shown the results are in accordance with what has been determined by the Community Service Team.

Implementation of the exam in the laboratory and followed by all participants who have attended the training from the beginning.

This evaluation has been achieved in accordance with the specified target and 87% of participants scored above the specified average. The minimum average value passed is 75. The evaluation results are as in table 3.

Tabel 3 Rekap Hasil Evaluasi Peserta

Interval Nilai	Jumlah
85-100	4
80-84	6
75-79	3
70-74	2
65-69	-
60-64	-
55-59	-
50-54	-
45-49	-
0-44	-
<b>Total</b>	<b>15</b>

After the completion of the training exam, participants are given the opportunity to consult and discuss or provide assistance if they encounter difficulties regarding Microsoft Excel.

Microsoft Excel training provides additional knowledge and improves participants' skills in processing data using Microsoft Excel.

#### 4. Conclusion

Community Service in the form of Microsoft Excel training to process data has been carried out well and smoothly and they are very enthusiastic in participating in this training because it is very useful when carrying out tasks in industrial work practices. The results of the Microsoft Excel training provided additional knowledge and improved participants' skills in processing data using Microsoft excel, of the participants who attended the training 87% got a score above the minimum average.

#### Acknowledgements

We would like to thank the STMIK Leaders, Heads and Laboratory staff who have given permission to the Service Team to organize training using the Application laboratory.

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