OPTIMIZATION OF APPLICATION USE MICROSOFT OFFICE EXCEL BASED FOR STUDENT DATA MANAGEMENT

Suwatri[1], Rahmat Suryanto[2]

[1,2]Magister Teknologi Pendidikan, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Lampung,
Jl. Prof. Dr. Soemantri Brojonegoro No. 1 Bandar Lampung, Indonesia
e-mail: suwatri.bio01@gmail.com

Abstract

So far, in managing student data in schools using manual methods, the work becomes difficult, ineffective and takes a long time. The many types of student data that must be created by schools make schools strive to manage student data that is practical and stored digitally. By optimizing the use of student administration applications based on Microsoft Office Excel, it is hoped that it can provide convenience in managing student data in schools, especially helping to facilitate the work of administrative staff and teachers in schools. This research was conducted through interviews with several schools which were used as research objects to use student administration applications. The study was conducted in several schools in the Pesawaran district of Lampung province in the 2019/2020 school year. After the school optimizes the use of Microsoft Office Excel-based student administration applications, the management of school student data is organized effectively, practically, doesn't take long, and the data is stored digitally neatly.

Keywords: Optimization, Excel MO-based Applications, Student Data Management

INTRODUCTION

Microsoft Office Excel is part of Microsoft Office which functions for processing data in the form of numbers and calculations. The display of Microsoft Office Excel is in the form of a spreadsheet making it easier for users to operate it. Microsoft Office Excel has become the best data/number processing software in the world, besides that Microsoft Office Excel has been distributed on a multi-platform basis. Microsoft office excel is not only available on the windows platform, microsoft office excel is also available on MacOS, Android and Apple (Advernesia. 2021). Microsoft office excel fundamentally uses spreadsheets for data management and performs excel functions which are better known as excel formulas. Excel is an electronic spreadsheet program. A spreadsheet is a collection of cells consisting of rows and columns where you enter numbers in Microsoft Office Excel.

This Microsoft Office Excel-based application is an automatic data processor that can include basic calculations, use of formulas, use of functions, graphing, data processing and tables, and data management (Edi subarkah.2021.www.learningoffice.com). The benefits of Microsoft Office Excel are as follows:

- With the various formulas offered, it will certainly make it easier for us to make difficult and varied formulas
- The data graph feature in Microsoft Office Excel provides convenience in the process of analyzing data in the form of tables and graphs
- If a calculation error occurs at a certain stage, it can be easily identified using the error trace facility
- The large number of rows and columns in Microsoft Office Excel will make it easier for us to input large amounts of data.

There are a lot of student data in a school that must be prepared starting from various student attendance lists, student grade lists, student identities, student test needs, student transfer data, active student recaps and so on. This student data must be owned by the school every year and should be archived digitally, so that if at any time it is needed the school just opens it and gets the data. If this student data is not managed properly it will be a weakness of a school in managing the student data.

Therefore, it is necessary to have a student data management system to make it easier for schools to find and obtain student data. Through optimizing the use of the excel application, it is hoped that it can facilitate schools, both educators, education staff and education units in planning, implementing, compiling reports, and utilizing the results of student data management to facilitate student data management in schools.

Previously in managing student data using the manual method, this resulted in the work being difficult, inefficient and old data was often overwritten with new data which resulted in lost old data, using Microsoft Office Excel-based applications are expected to provide convenience in managing student data at a school in particular helping educators and school administration staff. By using an application based on Microsoft Office Excel, educators and education personnel at a school become easier to manage and obtain student data.

Use of Microsoft Office Excel-Based Applications
1) By using a Microsoft Office Excel-based application, it is easier to student data management in schools.
2) Develop microsoft office excel-based applications in data management students at school.

OVERVIEW OF THE APPLICATION AND HOW TO USE
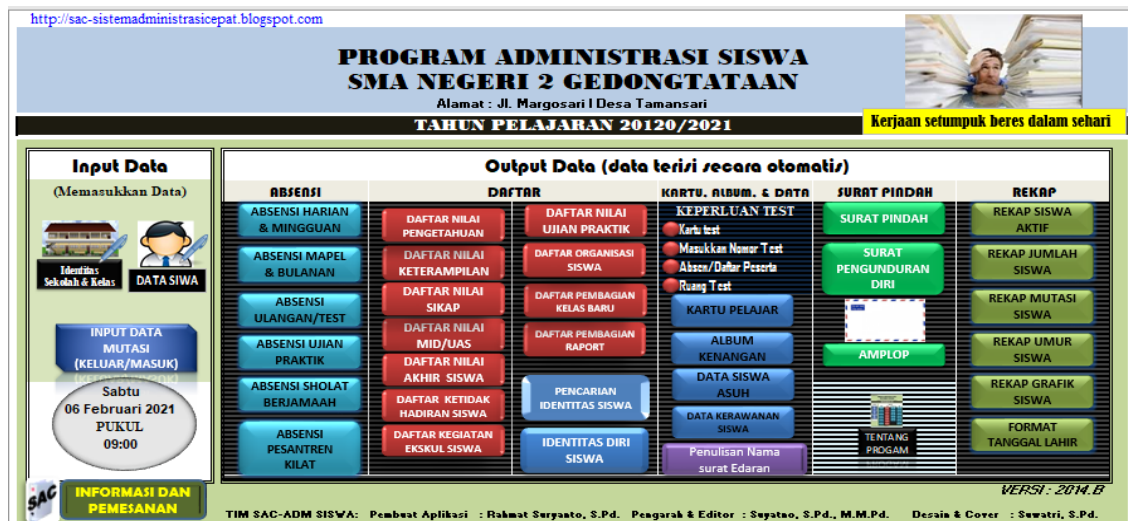**Student Administration Application**

This application is a program used to manage student administration. This program is designed automatically to make it easier for officers to manage student administration. The capacity of this program is for 1200 student data, 30 classes, where each class can be filled with a maximum of 40 students. In this program there are 3 input data that must be inputted / filled, namely:
1. Enter school data
2. Enter student data
3. Mutation data input (students leaving and entering)
The results of program processing will obtain 33 data outputs, in the form of attendance, list of grades, cards, memory albums, various data recapitulations, graphs of student conditions, and writing names for circulars.

a. Main course

The main menu display of the student administration application is as follows:

The main menu consists of 3 data input buttons, 38 data output buttons, 1 program button, 1 information and ordering button, and an automatic calendar and clock.

b. Work procedures for using student administration programs
The work procedure in using this schedule program includes:
1) Filling school data
2) Filling in Student data
3) Filling in data for mutations (students leaving and entering)

After the 3rd data entry is complete, then we can see the results in the data output which are all filled automatically. Data that is filled in automatically includes:
1. Daily attendance
2. Weekly attendance
3. Subject attendance
4. Monthly attendance
5. Attendance for tests/tests
6. Attendance for practical exams
7. The absence of congregational prayers sholat
8. Fast boarding school attendance
9. List of subject grades
10. Attitude value list
11. List of test scores
12. List of final grades
13. Student absentee list
14. List of student extracurricular activities
15. List of student organizations
16. List of practice exam scores
17. List of new class divisions for new class students
18. List of report cards
19. Test participant card

20. List of test participants
21. Attendance list of test participants
22. Test Participants Room
23. Student card
24. Memories album
25. List of foster students (for BK)
26. Student vulnerability data (for BK)
27. Identity data of each student
28. Writing student names on circulars
29. Active student recapitulation
30. Recap the number of students
31. Student age recap
32. Recap of student transfers by month
33. List of incoming and outgoing transfer students
34. Student state graph
35. Birth date format (9 types of birth date format types)

c.Viewing the output data
Here are some examples of the output of some data:
1) Student Attendance Data
To view Student Attendance Data (select the type of Attendance, for example: Subject Attendance), from the main menu click Subject Attendance, the following display will appear

Note:
1. Click and select a class in the upper left corner to determine student attendance for a particular class.
2. The names of students and homeroom teachers will be written automatically
3. Do the same for other types of student attendance
   To print / print, please direct the command, the script has been set.
   When finished, please click home in the upper left corner to return to the main menu.

2) List of Subject Values

To view Subject Value Data from the main menu select Subject Value List, the following display will appear

Note:
1. Click and select a class in the upper left corner to specify a List of Subject Values for a particular class.
2. The names of students and homeroom teachers will be written automatically
3. Do the same for the other student lists

To print / print, please direct the command, the script has been set.
When finished, please click home in the upper left corner to return to the main menu.

3) Test / Test Card
To view the student's Test / Test Card, from the main menu click the Test / Test card, the following display will appear

Note:
• Please write the title of the card and the date of the card in the column provided on the left
• Begron color and text color can be customized.
• The principal's signature can be entered directly on the card, so that when printed, it remains only to be stamped.
• Click enter the test number, then please fill in the test number and space in the following table

• When finished writing the test number and space, click again
• Then type the number in the upper left corner (number 1, and so on) to determine the student card. 1 number to print 10 cards

• *To print, please direct the command, the script has been set.*
When finished, please click home in the upper left corner to return to the main menu.

Attendance list and test participant list

To view and print the attendance list and the list of test participants from the list of numbers and test participant rooms, please click absent / test participants

Then the following screen will appear!

Please click and select the attendance list or participant list, then type a number to view the attendance list or participant list for each room.
To print / print, please direct the command, the script has been set.
When finished, please click again in the upper left corner to return to the main menu.

Test Room Name.
To print the test room automatically, from the participant attendance list menu or test room, please click print test room, the following screen will appear:

To print / print, please direct the command, the script has been set.

When finished, please click again in the upper left corner to return to the test participant menu.
To return to the main menu, click home.

4) Active Student Data Recapitulation

To see all students who are still actively participating in the teaching and learning process from the main menu, please click Active Student Recap, the following display will appear:

DATA SISWA AKTIF

No.Urt	Kelas	No.	No Induk	NISN	Nama Lengkap Siswa	Tempat Lhr	Tgl	L / P	Agama	Alamat rumah	No. Telp	Ting
1	2	3	4	5	6	7	8	9	10	11	12	
1	X MIPA1	1	798	0045987293	ABY RAHMA DHANI	PASIR ERIH	2004-10-23	L	Islam	PASIR ERIH		
2	X MIPA1	2	800	0052966198	AHMAD FAUZUL RIFKI MUSTAMI	Negeri Sakti	2005-04-18	L	Islam	SRI MULYO		
3	X MIPA1	3	801	0060099916	ALISTA SUCI JAHRA	TAMAN SARI	2006-01-29	P	Islam	TAMAN SARI 2		
4	X MIPA1	4	803	0045632359	APRILIANI	BERNUNG	2004-03-19	P	Islam	Jl. Sukajaya		
5	X MIPA1	5	806	0057077032	DAMAI FRISKILLA MARING	TAMAN SARI	2005-08-15	P	Islam	DUSUN SUMBER SARI 03		
6	X MIPA1	6	808	0044071162	DESSI NARRAS WATI	PASIR ERIH	2004-12-03	P	Islam	PASIR ERIH		
7	X MIPA1	7	810	0051934137	DILLA REGITA CAHYANI	BANDUNG	2005-07-08	P	Islam	AHMAD YANI		
8	X MIPA1	8	812	0051917489	EKA APRILIA SARI	TAMAN SARI	2005-04-18	P	Islam	BANGUN HARJO		
9	X MIPA1	9	814	0051916605	FIDIA BESTARI	SUNGAILANGKA	2005-01-29	P	Islam	Jl. Way Ringin		
10	X MIPA1	10	817	0047775186	GALIH IMAN RAMADAN	Bernung	2004-10-23	L	Islam	BERNUNG		
11	X MIPA1	11	819	0057520802	IRMA WATI	SUMBER SARI	2005-09-30	P	Islam	SUMBER SARI 4		
12	X MIPA1	12	821	0051952273	JENI TRIYA AGATASYA	NEGERI SAKTI	2005-08-03	P	Islam	Sri Menanti		
13	X MIPA1	13	823	0044771597	LOISHA ADELLIA RAHMADANY	BANDAR LAMPUN	21 September 2004	P	Islam	JL. IMAM BONJOL GG. SMKN 8		
14	X MIPA1	14	824	0051914715	M SYUKUR	SRIDADI	08 Februari 2004	L	Islam	Sungailangka		
15	X MIPA1	15	826	0060236364	M. ZAKI FADILAH	Sungailangka	2005-01-01	L	Islam	JL BON X		
16	X MIPA1	16	830	0042636572	MUHAMMAD DENDI ASLAN	Bernung	2005-03-18	L	Islam	WAY HANDA		
17	X MIPA1	17	833	0054107748	NAILA SALSA BILA	KM. Dua Puluh Sat	2005-09-19	P	Islam	CANDI HARJO		
18	X MIPA1	18	835	0041654074	NIMAS JAMA LEHA	GEDONG TATAAN	2004-01-04	P	Islam	SUMBER SARI 3		
19	X MIPA1	19	837	0051270057	NOVITA SARI	GUNUNG TERANG	2005-11-10	P	Islam	GUNUNG TERANG		

Note:

• Student names and identities are filled in automatically
• Student data recorded on this sheet are the names of students who are still active (students who have left or moved to another school are not listed on this sheet)
To print / print, please direct the command, the script has been set.
When finished, please click home in the upper left corner to return to the main menu.

5) Data Recapitulation of Number of Students

To see the number of students who are still actively participating in the teaching and learning process from the main menu, please click Recap Number of Students, the following display will appear:

REKAP JUMLAH SISWA
SMA NEGERI 2 GEDONGTATAAN
TAHUN PELAJARAN 20120/2021

No.	Kelas	Wali Kelas	NIP	Ketua Kelas	Jumlah Siswa		
					L	P	Total
1	X MIPA 1	Fitri Yunita Andriyani,S.Pd	19840629 201101 2 004		7	21	28
2	X MIPA 2	Ulfa Novrita,S.Pd	19921125 201403 2 002		8	21	29
3	X IPS 1	Dwi Novalia,S.Pd	19791022 200902 2 001		11	11	22
4	X IPS 2	Ambar Ratnaningsih,S.Pd	19811214 2011 1 2 008		10	10	20
5	XI MIPA 1	Agus Seftarini,S.Pd	19830805 200902 2 003		13	16	29
6	XI MIPA 2	Feni Fera,S.Pd	19840909 201001 2 006		11	19	30
7	XI IPS 1	Siti Qomariyah,S.H.I	19860209 201101 2 006		17	10	27
8	XII MIPA 1	Nia Aprilia,S.Pd	19850404 201101 2 006		12	18	30
9	XII MIPA 2	Novi Ardi PS,S.Pd.,M.M.	19851128 201407 1 001		13	16	29
10	XII IPS 1	Ari Sulistiyawati,M.Pd.	19730626 200902 2 001		11	11	22
11	XII IPS 2	Eka Maylistiawati,S.Pd	19810514 200909 2 002		11	11	22
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							

Note:
• The number of students will be filled automatically
• The number of students filled in includes the number of male and female students as well as the total number of students from each class and the total number of students

To print / print, please direct the command, the script has been set. When finished, please click home in the upper left corner to return to the main menu.

6) Recapitulation of Student Age

To view the Recapitulation of Student Age from the main menu, please click Recap of Student Age, the following display will appear:

DAFTAR UMUR SISWA
Per - 6 Februari 2021

No	Nama Siswa	No Induk /NISN	Kelas	Tanggal lahir	Umur	
1	ABY RAHMA DHANI	798 / 0045987293	X MIPA 1	2004-10-23	16	Tahun
2	AHMAD FAUZUL RIFKI MUSTAMI	800 / 0052966198	X MIPA 1	2005-04-18	15	Tahun
3	ALISTA SUCI JAHRA	801 / 0060099916	X MIPA 1	2006-01-29	15	Tahun
4	APRILIANI	803 / 0045632359	X MIPA 1	2004-03-19	16	Tahun
5	DAMAI FRISKILLA MARING	806 / 0057077032	X MIPA 1	2005-08-15	15	Tahun
6	DESSI NARRAS WATI	808 / 0044071162	X MIPA 1	2004-12-03	16	Tahun
7	DILLA REGITA CAHYANI	810 / 0051934137	X MIPA 1	2005-07-08	15	Tahun
8	EKA APRILIA SARI	812 / 0051917489	X MIPA 1	2005-04-18	15	Tahun
9	FIDIA BESTARI	814 / 0051916605	X MIPA 1	2005-01-29	16	Tahun
10	GALIH IMAN RAMADAN	817 / 0047775186	X MIPA 1	2004-10-23	16	Tahun
11	IRMA WATI	819 / 0057520802	X MIPA 1	2005-09-30	15	Tahun
12	JENI TRIYA AGATASYA	821 / 0051952273	X MIPA 1	2005-08-03	15	Tahun
13	LOISHA ADELLIA RAHMADANY	823 / 0044771597	X MIPA 1	21 September 2004	16	Tahun
14	M SYUKUR	824 / 0051914715	X MIPA 1	08 Februari 2004	####	#######
15	M. ZAKI FADILAH	826 / 0060236364	X MIPA 1	2005-01-01	16	Tahun
16	MUHAMMAD DENDI ASLAN	830 / 0042636572	X MIPA 1	2005-03-18	15	Tahun
17	NAILA SALSA BILA	833 / 0054107748	X MIPA 1	2005-09-19	15	Tahun
18	NIMAS JAMA LEHA	835 / 0041654074	X MIPA 1	2004-01-04	17	Tahun

Tanggal Saat ini
06 Februari 2021

REKAP UMUR

Umur	Jumlah
12	
13	
14	2
15	38
16	72
17	81
18	61
19	14
20	5
21	
22	

Note:
• All student ages will be filled in automatically based on the current date.
• To print, please direct the command, the script
  has been set.
• When finished, please click home in the upper left corner to return to the main menu.

7)Date of birth format
The date of birth format is usually used to write the date of birth on the data of prospective national exam participants in a certain format.

To view the format of the student's birthday from the main menu, please click Format of the student's birthday, the following display will appear:

FORMAT TANGGAL LAHIR

NO. URUT	Kelas	NOMOR INDUK	NISN	NOMOR SKHUN SMP/MTs	L/P	TEMPAT LAHIR	FORMAT TANGGAL LAHIR								
							1	2	3	4	5	6	7	8	9
1	X MIPA 1	798	0045987293	ABY RAHMA DHANI	L	PASIR ERIH	23-10-2004	23-10-2004	23-10-04	23/10/2004	23/10/2004	23/10/04	23102004	231004	23 Oktober
2	X MIPA 1	800	0052966198	AHMAD FAUZUL RIFKI MUSTAMI	L	Negeri Sakti	18-4-2005	18-04-2005	18-04-05	18/4/2005	18/04/2005	18/04/05	18042005	180405	18 April
3	X MIPA 1	801	0060099916	ALISTA SUCI JAHRA	P	TAMAN SARI	29-1-2006	29-01-2006	29-01-06	29/1/2006	29/01/2006	29/01/06	29012006	290106	29 Januari
4	X MIPA 1	803	0045632359	APRILIANI	P	BERNUNG	19-3-2004	19-03-2004	19-03-04	19/3/2004	19/03/2004	19/03/04	19032004	190304	19 Maret
5	X MIPA 1	806	0057077032	DAMAI FRISKILLA MARING	P	TAMAN SARI	15-8-2005	15-08-2005	15-08-05	15/8/2005	15/08/2005	15/08/05	15082005	150805	15 Agustus
6	X MIPA 1	808	0044071162	DESSI NARRAS WATI	P	PASIR ERIH	3-12-2004	03-12-2004	03-12-04	3/12/2004	03/12/2004	03/12/04	03122004	031204	3 Desember
7	X MIPA 1	810	0051934137	DILLA REGITA CAHYANI	P	BANDUNG	8-7-2005	08-07-2005	08-07-05	8/7/2005	08/07/2005	08/07/05	08072005	080705	8 Juli 2
8	X MIPA 1	812	0051917489	EKA APRILIA SARI	P	TAMAN SARI	18-4-2005	18-04-2005	18-04-05	18/4/2005	18/04/2005	18/04/05	18042005	180405	18 April
9	X MIPA 1	814	0051916605	FIDIA BESTARI	P	SUNGAILANGKA	29-1-2005	29-01-2005	29-01-05	29/1/2005	29/01/2005	29/01/05	29012005	290105	29 Januari
10	X MIPA 1	817	0047775186	GALIH IMAN RAMADAN	L	Bernung	23-10-2004	23-10-2004	23-10-04	23/10/2004	23/10/2004	23/10/04	23102004	231004	23 Oktober
11	X MIPA 1	819	0057520802	IRMA WATI	P	SUMBER SARI	30-9-2005	30-09-2005	30-09-05	30/9/2005	30/09/2005	30/09/05	30092005	300905	30 September
12	X MIPA 1	821	0051952273	JENI TRIYA AGATASYA	P	NEGERI SAKTI	3-8-2005	03-08-2005	03-08-05	3/8/2005	03/08/2005	03/08/05	03082005	030805	3 Agustus
13	X MIPA 1	823	0044771597	LOISHA ADELLIA RAHMADANY	P	BANDAR LAMPUN	21-9-2004	21-09-2004	21-09-04	21/9/2004	21/09/2004	21/09/04	21092004	210904	21 September
14	X MIPA 1	824	0051914715	M SYUKUR	L	SRIDADI	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
15	X MIPA 1	826	0060236364	M. ZAKI FADILAH	L	Sungailangka	1-1-2005	01-01-2005	01-01-05	1/1/2005	01/01/2005	01/01/05	01012005	010105	1 Januari
16	X MIPA 1	830	0042636572	MUHAMMAD DENDI ASLAN	L	Bernung	18-3-2005	18-03-2005	18-03-05	18/3/2005	18/03/2005	18/03/05	18032005	180305	18 Maret
17	X MIPA 1	833	0054107748	NAILA SALSA BILA	P	KM. Dua Puluh Sat	19-9-2005	19-09-2005	19-09-05	19/9/2005	19/09/2005	19/09/05	19092005	190905	19 September
18	X MIPA 1	835	0041654074	NIMAS JAMA LEHA	P	GEDONG TATAAN	4-1-2004	04-01-2004	04-01-04	4/1/2004	04/01/2004	04/01/04	04012004	040104	4 Januari
19	X MIPA 1	837	0051279957	NOVITA SARI	P	GUNUNG TERANG	10-11-2005	10-11-2005	10-11-05	10/11/2005	10/11/2005	10/11/05	10112005	101105	10 Nopember

There are 9 birth date formats that can be chosen to write the date of birth according to what is requested on the data of prospective national exam participants, just choose from that format.
To print / print, please direct the command, the script has been set.
When finished, please click home in the upper left corner to return to the main menu.

RESEARCH METHODS
This research is a research & development research conducted through interviews with several schools which are used as research objects to use student administration applications based on Microsoft Office Excel. The study was conducted in several schools in the Pesawaran district of Lampung province in the 2019/2020 school year including SMA N 2 Gedongtaaan, SMA N 1 Way Lima, SMA N Way Khilau.

RESULTS AND DISCUSSION
Some schools in Pesawaran Regency, Lampung province, initially managed student data manually and had not been managed digitally. Educators and administrative staff take a long time to create student data such as student attendance lists, student grade lists, student identity data, student test cards, to the recap (number of students, active students, student age, student transfers, student graphs) and format student's date of birth. At first, this student data was made manually using Microsoft Office Word or Microsoft Office Excel. Data is not managed digitally, after the completion of the school year, it is deleted and replaced with the latest school year, and so on. When there was a moneva and school accreditation requesting data from previous years, the school finally found it difficult to fulfill this because the data was not stored and managed properly.

In the 2019/2020 school year until now, finally several schools in the Pesawaran district have managed student data digitally by optimizing Microsoft Office Excel-based applications created by researchers. Starting from the student attendance list, list of student grades, student identity data, student test cards, including a recap (number of students, active students, student age, transfer, student graph) and the format of the student's date of birth. Data is well managed digitally and created and stored in digital files per academic year so that data can be obtained at any time when needed.

By optimizing the application based on Microsoft Office Excel for student data, its use is quite practical, on the main page display the data input and data output designs are made. The work will begin by simply inputting data in the form of school identity, student data, and inputting student data for transfers (out/in). After inputting this data, the output data will be obtained, namely various types of attendance, list of grades, student identity, for student testing purposes, various student data recaps to various formats of student birth dates. The output of this student data can be used for the purposes of educators and educators in completing their tasks. At the time of moneva data is easy to obtain, so schools have neat data management that is digitally documented and can be printed for the needs of educators in carrying out tasks.

Making applications based on Microsoft Office Excel is made in the form of hyperlinks to the desired output menus, so that in this way the work will be easier and more effective, it does not take a long time.
From the results of interviews with the school, after school using student administration applications based on microsoft office excel shows that schools are very helpful in managing student data effectively, in detail, practically and in a short time.

CONCLUSIONS AND SUGGESTIONS
Through Optimizing Applications based on Microsoft Office Excel, it really helps schools in managing student data effectively, in detail, practically and in a short time. Seeing the effectiveness of optimizing the use of Microsoft Office Excel-based applications, schools can use this application, and it is hoped that others will develop other Excel-based applications that will be useful in schools.

THANK-YOU NOTE

The researcher would like to thank profusely to the parties involved in this research to completion, especially to the principal of the school in Pesawaran Regency, Lampung Province who has given permission and support for the smooth implementation of this research.

REFERENCES

Asti Riani Putri, S.T., M.T. 2015. Optimalisasi Penggunaan Microsoft Excel Untuk Pengolahan Nilai Raport Di Sman 1 Ngunut Tulungagung. J-ADIMAS (Jurnal Pengabdian kepada Masyarakat). Volume 3, Nomor 1, Juli 2015:1 – 5.

Edi subarkah.2021.www.belajaroffice.com

https://www.advernesia.com/blog/microsoft-excel/microsoft-excel-adalah/dikutip tanggal 05 februari 2021

https://www.belajaroffice.com/pengertian-microsoft-excel-fungsi-dan-manfaatnya/dikutip tanggal 05 februari 2021

Wikipedia. (2020). Microsoft Office. Https://Translate.Google.Com/Translate?U=Https://En.Wikipedia.Org/Wiki/Microsoft_Offic e&Hl=Id&Sl=En&Tl=Id&Client=Srp