

Adviser's Students' Record Management System (SMSHS-ARMS) Using Microsoft Excel

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Abstract:- The aim of the study is to design and create a system that will aid advisers in managing students' records. The researchers developed the Adviser's Students' Records Management System (ARMS) to assist teacher-advisers in producing quality, accurate, and dependable student records such as student report cards (SF9) and student permanent records (SF10). The system was developed by the researchers and used by the thirty (30) Grade Level Teacher-Advisers for the school year 2021-2022. Purposive sampling was performed in selecting the participants. The researchers also carried out a system evaluation to gather commendable feedback and recommendations for future system improvements. This research employed both qualitative and quantitative methods to gather data that will answer the problems of the study. The descriptive research approach was used to determine the level of satisfaction of the respondents with the system's use. According to the study's findings, the Adviser's Students' Records Management System is extremely useful and efficient. The system is a great help for teacher-advisers for recording and generating DepEd school forms such report card (SF9) and student permanent record (SF10). The system is simple to use and significantly reduces the burden on teachers. The system created is a huge help and ease to comply with an adviser's tasks in terms of data accuracy, preventing errors in the encoded information of students and their grades. Based on the result of the study it is recommended to connect the system to all DepEd Forms. It is also recommended to develop a system that will cater records of irregular students

Keywords:- Adviser, Student Record Management System, Satisfaction

I. INTRODUCTION

A. Background of the Study

Maintaining student records is one of a teacher's most important responsibilities and one of this is recording and producing student's performance academic records. Academic performance records, such as grades and report cards, provide information about a student's development and assist parents and teachers in making critical decisions about a student's educational needs. Teachers and school personnel can use attendance data to keep track of their learners. Parent-teacher conferences and disciplinary meetings benefit from behavior

records. Thus, any teacher should have record keeping system which is accurate, reliable, easy to follow, and consistent. All this record is written on students report card (SF9) and permanent record (SF10).

Report cards, sometimes called progress reports, provide written records of student performance on curriculum outcomes over a period. School report cards can serve a variety of purposes including increasing accountability in the education system, assisting in school planning, and budgeting processes, providing feedback to administrators and teachers, and increasing social participation which can improve civil society (Cheng, Moses, et al., 2016). School progress cards serve an important role in allowing teachers, students, and parents to track how well the student does. It is regarded by many parents as the most important document they receive from the school. As a result, the content of the report card has a significant impact on how parents perceive the school's concern for their child that's why providing accurate and reliable report cards are very important.

Despite the importance providing accurate and reliable report cards and other student records teachers particularly advisers are facing a lot of challenges and difficulties in preparing these pertinent records. Nowadays educators, both teachers and administrators are challenged in preparing all this records. Teachers are swamped with paperwork. The ability to document events, tracking data, grading, or scoring student work, and even celebrating progress all take a responsibility in keeping accurate records in both instructional and non-instructional settings. Tracking student data is vital to their educational endeavors; adjusting instruction to this data is essential (Konen, 2018).

Teachers have been singing the paperwork blues for years. They claim, however, that the problem has grown severe this year, owing to new state rules requiring schools to track pupils' development and hold them more accountable. One of these paper works concern is record keeping of the students. Record keeping and organization can be a very time-consuming job of an adviser. Teacher-adviser need to set and learn systems that will him/her to track of all the different records he/she need to keep for each student. This involves a lot of paper preparation and almost eat time of the advisers.

The Department of Education (Deped) announced it has reduced effective immediately the number of paperwork required to be completed by teachers from 36 to 10 school forms. However, the teacher-advisers prepare some of these forms such as SF9 and SF10 of the students through manual encoding. Manual encoding of data gives area for a lot of errors and with generate reports with less accuracy. Many advisers are having trouble completing their progress report cards (SF9), formerly known as Form 138, SF10 (Form-137), and other reports about student academic achievements. Preparing all these documents is always a challenge for every teacher-adviser every quarter of the school year. Record keeping and organization can be a very time-consuming job of an adviser given that teacher has at least 50 students in his/her class. This entails a great deal of paper preparation and virtually all the adviser's time, which has an impact on the preparation of lessons for the students. In San Mateo Senior High School, advisers need to prepare summary of grades, report card (SF9) and SF10 every quarter and encoding all the data needed to complete the forms are done repeatedly.

This situations of the teacher-advisers on preparation of students' records inspired the researchers to develop Project ARMS "Advisers' Students' Records Management System. According to Kemoni and Wamukoya (2000) that effective record-management systems allow for the proper functioning of an organization and the researchers think that one solution to this problem is to digitize the recording of students' academic performance reports. Document digitization allows an institution like schools to access data in digital form and increased productivity (EduHealth, 2022).

The purpose of this study is to develop a system that will help teacher-advisers manage and generate student records. This study will also investigate the teacher-adviser's satisfaction level in the use if the system in terms of accuracy, reliability, and maintainability. This study will help all teacher-advisers prepare students' records with accuracy and reliability, and to submit all records on time.

B. Statement of the Problem

The objective of the study is to evaluate the accuracy and efficiency of the San Mateo Senior High School Adviser's Record Management System (SMSHS-ARMS) in preparation of student records.

Through this study, the researchers intend to answer the following questions:

- In what extent does the advisers are satisfied in the use of Students' Record Management System in preparing school documents such as SF9 and SF10 in terms of
 - Accuracy?
 - Reliability?
 - Maintainability?
- In what extent the utilization of the Advisers Students' Record Management System helps the teachers in terms of

timelines of the preparation and submission of the documents?

- In what area the Students' Record Management System can be improved?

C. Significance of the Study

The purpose of this study is to develop a system that will help teacher-advisers manage and generate student records. The following are the beneficiaries of the study.

Teacher-adviser. The teacher will benefit in the development of Adviser's Students' Record Management System (ARMS). This system will increase their productivity towards work. Burden in the preparation of student pertinent records. This will also lessen errors in preparing the students' report card (SF9) and permanent record (SF10). Checking form will be fast and easy since the system promote better accuracy and reliability in terms of data management.

School Administrator. The school will also lessen it expenses in terms of system outsourcing since the creator of the system are the teacher-researchers of the school.

Department of Education. The Department of Education (DepEd) may consider this innovation to develop a standard system for all schools that will be used by the teachers-advisers in the preparation of different DepEd forms. This will encourage uniformity, accuracy, and reliability in the preparation of student records.

Future Researchers. Future researchers may consider the recommendation presented in this study to innovate the system.

II. METHODOLOGY

A. Research Design

Since the study aims to descriptively answer research questions surrounding the research paper writing, the researchers used the mentioned research designed in the study of Shuttleworth (2018).

B. The Participants

Purposive sampling was performed in selecting the participants. The participants of the study are the Grade 11 and Grade 12 advisers of San Mateo Senior High School for SY 2021-2022. There are 30 advisers participated in the study. All these teacher-advisers experienced to use the system in making students' records such as SF9 and SF10.

C. The Instrument

The researchers used a Google forms survey form to determine the level of satisfaction of the teacher-adviser with the system (SMSHS-ARMS). It is a survey instrument with a five-Likert Scale. The survey form includes both quantitative and qualitative questions. The effectiveness of the instrument is measured in terms of accuracy, dependability, and maintainability. It also assesses the teacher adviser's level of

satisfaction in terms of timeliness. The final section of the instrument is an open-ended question that gathered the recommendations of the teacher-advisers for future system improvement.

The content and criteria of the instrument was validated by the Information Communication Technology (ICT) Coordinator and the School Registrar. The team also checked whether the system follows the standard requirements of the Department of Education.

D. Data Collection Procedure

➤ *Planning.*

The researchers hold a brainstorming session to discuss how the development of school forms such as SF9 and SF10 can be improved to reduce the burden on teachers in terms of preparing such documents. Advisers were also asked about their difficulties in completing school forms. All this data, as well as the advisers' previous experiences, led and inspired the researchers to create a system that will solve the problem.

➤ *Development of the System.*

San Mateo Senior High School Adviser's Students' Record Management System (SMSHS-ARMS) is a tool to facilitate accomplishing student's report (SF9) and transcripts of records (SF10). This system uses Microsoft Excel to manage and organize students' records.

The researchers wrote the terms of references (TOR) of the system before starting to develop it. The researchers also considered also DepEd memorandum related to school forms to complete the terms of references of the system. The system was developed using Microsoft Excel. Advanced features were used in the system. The researchers were able to watch some video tutorials on advanced features of Microsoft Excel. A password-protect was established to protect the formulas and default data of the system.

The SMSHS-ARMS is composed of four sections. The first section is the General Profile Section. This section composes learner's name, learner's LRN number, sex, age. This section also includes the Junior High School learner's school and address and learners Junior High School general average for the front page of the SF10 and the report card (SF9).

The second section is the summary of grades, attendance report and behavioral report. This section also includes the learner's name, learner's LRN number, and sex.

The third section is the report card (SF9) of the learners. This section includes the learner's name, learner's LRN number, sex, age, track and strand and the name of the advisers. This also includes the grades of the students in different subjects such core subjects, applied subjects and specialized subject. All data of the SF9 are extracted from section 1 and section 2.

The last section is the SF10 or formerly the Form-137. Like SF9 this section includes data extracted from the section 1 and section 2. Lastly, the fifth section is the computation of the general average for the whole school year to determine the academic awardees. All sections are connected to one another. This system will lessen teachers' job in encoding learner's data and encoding grades.

➤ *Orientation on the Utilization of the System.*

Following the development of the system, the researchers conducted an orientation for the San Mateo National High School teacher-advisers. Each component and section of the system was introduced in detail. The researchers demonstrate the system's functions using the Google Meet application.

➤ *Usage of the System.*

The system was used by the school to generate the report card (SF9) and permanent record (SF10) of the students for the SY 2021-2022. All data of the students were directly imported from the Students Profile (SF1) provided by the Registrar and LIS Coordinator of the School. Grades of the students were encoded by the advisers to the summary of grades section of the system. After encoding all the necessary data, the system will generate (SF9) and (SF10) of the students. This document is ready for printing and checking. The system also provides summary of grades of students and can easily identify students with academic excellence awards. During the implementation of the use of the system the researchers assist question and concerns related to the use of the system.

➤ *Evaluation of the System.*

Following the school and division form checks, the researchers evaluated the system to facilitate feedback from the advisers who use the system. A validated evaluation tool was distributed to the advisers to obtain feedback on the system's accuracy, reliability, maintainability, and functionality. The researchers also gathered some recommendations from the advisers on what areas of the system could still be improved.

E. Data Analysis Plan

The survey was done using google forms. Results were consolidated using Microsoft excel. Weighted Mean and standard deviation were used to know the advisers' level of satisfaction in the use of Adviser's Record Management System in terms of accuracy, reliability, and maintainability. It is also used in determining the level of utilization of the system in terms of timeliness of the preparation and submission of the documents. Text or Verbatim form will be used to describe the challenges encountered by the teacher-advisers in using system. It also used to enumerate recommendations of the teacher-advisers for the improvement system.

III. RESULTS AND DISCUSSION

This section deals with the presentation and analysis of the results and findings of the study. This is sectioned into four (4) parts namely: Advisers Students’ Record Management System in terms of accuracy, reliability, and maintainability; utilization of the Advisers Students’ Record Management System helps the teachers in terms of timelines of the preparation and submission of the documents; and future recommendations for the system.

❖ *Problem No. 1: In what extent does the advisers are satisfied in the use of Advisers Students’ Record Management System (ASRMS) in preparing school documents such as SF9 and SF10 in terms of:*

A. Accuracy

Accuracy is one of the most important characteristics of a system. Accuracy determines the degree to which an actual controlled process approaches the desire process.

Table 1 Respondent’s Feedback on the Accuracy of the Advisers Students’ Record Management System (ARMS)

Indicators for Accuracy	N	\bar{X}	s	Verbal Interpretation
*The system produces accurate and correct data, allowing SF9 and SF10 to be generated and checked quickly.	30	4.90	0.30	Very Satisfied
*The system's formulas were valid, resulting in accurate data computations.	30	4.86	0.34	Very Satisfied
*The system's default data adheres to DepEd standards and regulations.	30	4.83	0.37	Very Satisfied
		4.86	0.34	Very Satisfied

Scale: 4.21-5.00 (Very Satisfied), 3.41-4.20 (Satisfied), 2.61-3.40 (Fairly Satisfied), 1.81-2.60 (Not Satisfied), 1.00-1.80 (Very Not Satisfied)

Table 1 shows the respondent’s feedback on the accuracy of the Advisers Students’ Record Management System (ASRMS). Based on the result of the evaluation, teacher-advisers are very satisfied and agreed that the system has high level of accuracy with a mean of (4.86) and standard deviation of (0.30). Respondents also agreed that the system produces accurate and correct data, allowing SF9 and SF10 to be generated and checked quickly with mean of (4.90) and standard deviation of (0.30).

B. Reliability

Reliability is defined as the probability of a product performing its intended function under stated conditions without failure for a given period (Phister & Olwell, 2022). To ensure the system validation the researchers were able to survey the teacher-adviser on the reliability of the system.

Table 2 Respondent’s Feedback on the Reliability of the Advisers Students’ Record Management System (ARMS)

Indicators for Accuracy	N	\bar{X}	SD	Verbal Interpretation
*The system makes it simple to complete tasks, especially preparing SF9 and SF10 forms.	30	4.77	0.50	Very Satisfied
*The system makes it simple for adviser to identify student academic awardees.	30	4.80	0.40	Very Satisfied
* The system facilitates easy encoding of data which maximize my time in preparing SF9 and SF10.	30	4.80	0.40	Very Satisfied
* The system is simple to use, reliable, and straightforward to understand.	30	4.80	0.40	Very Satisfied
* System designs are based on DepEd requirements and system design alternatives can then be formulated and evaluated.	30	4.87	0.34	Very Satisfied
		4.81	0.41	Very Satisfied

Scale: 4.21-5.00 (Very Satisfied), 3.41-4.20 (Satisfied), 2.61-3.40 (Fairly Satisfied), 1.81-2.60 (Not Satisfied), 1.00-1.80 (Very Not Satisfied)

Table 2 shows the respondent’s feedback on the reliability of the Advisers Students’ Record Management System (ASRMS). Based on the result of the evaluation, teacher-advisers are very satisfied and agreed that the system has high level of reliability with a mean of (4.81) and standard deviation of (0.41). Respondents also agreed that the system designs are based on DepEd requirements and system design alternatives

can then be formulated and evaluated with a mean of (4.87) and standard deviation of (0.34). According to Amrutkar and Kamalha (2017)'s study, reliability measures are important for determining which components are more critical to system reliability improvement or more critical to system failure.

C. Maintainability

Maintainability is a characteristic of design, assembly and installation that is the probability of restoration to normal operating state of failed systems within a specific timeframe, using specified repair techniques and procedures.

Maintainability is related to reliability because when a product or system fails, there may be a process to restore the product or system to operating condition (Schenkelberg, 2022). The researchers were able to survey the teacher-adviser on the system's maintainability to ensure system validation.

Table 3 Respondent's Feedback on the Maintainability of the Advisers Students' Record Management System (ARMS)

Indicators for Accuracy	N	\bar{X}	SD	Verbal Interpretation
*The formulas of the system, as well as the data encoded in the system, were protected by security measures.	30	4.83	0.37	Very Satisfied
*The system is an internally organized whole where elements are so intimately connected that they operate as one in relation.	30	4.80	0.40	Very Satisfied
* The system can be modified and restored to operational status after a failure occurs.	30	4.80	0.40	Very Satisfied
		4.81	0.39	Very Satisfied

Scale: 4.21-5.00 (Very Satisfied), 3.41-4.20 (Satisfied), 2.61-3.40 (Fairly Satisfied), 1.81-2.60 (Not Satisfied), 1.00-1.80 (Very Not Satisfied)

Table 3 shows the respondent's feedback on the maintainability of the Advisers Students' Record Management System (ASRMS). Based on the result of the evaluation, teacher-advisers are very satisfied and agreed that the system has high level of maintainability with a mean of (4.81) and standard deviation of (0.39). Respondents also agreed that the formulas of the system, as well as the data encoded in the system, were protected by security measures with a mean of (4.80) and standard deviation of (0.40).

❖ *Problem No. 2: In what extent the utilization of the Advisers Students' Record Management System (ASRMS) helps the teachers in terms of timelines of the preparation and submission of the documents?*

Timeliness in reporting is one of the most important factors in the delivery of public service because it is part of monitoring and decision-making activities of the management (Ofresio, 2017). Table 4 shows the feedback of teacher-advisers on the advantage of using ARMS System in terms Timeliness of submission of documents.

Table 4 Respondent's Feedback on the Advisers Students' Record Management System (ASRMS) in terms of Timeliness of Document Submission

Indicators for Accuracy	N	\bar{X}	SD	Verbal Interpretation
* The system helps me to generate SF9 and SF10 easy and accurately on time.	30	4.87	0.34	Very Satisfied
* The system helps me to submit SF9 and SF10 to my supervisors on time.	30	4.87	0.34	Very Satisfied
* The system helps me to identify student with academic excellence awards easily on time.	30	4.87	0.34	Very Satisfied
		4.87	0.34	Very Satisfied

Scale: 4.21-5.00 (Very Satisfied), 3.41-4.20 (Satisfied), 2.61-3.40 (Fairly Satisfied), 1.81-2.60 (Not Satisfied), 1.00-1.80 (Very Not Satisfied)

Table 4 shows the respondent's feedback on the utilization of the Advisers Students' Record Management System (ASRMS). Based on the result of the evaluation, teacher-advisers are very satisfied and agreed that the utilization of system was effective and efficient with a mean of (4.87) and standard deviation of (0.34). Respondents also agreed that the system helps them to generate SF9 and SF10 easy and accurately, the system helps them to submit SF9 and SF10 to my supervisors on time and the system helps the teacher-advisers to identify student with academic excellence awards easily. All the criteria have a mean of (4.87) and standard deviation of (0.34).

❖ *Problem No. 3: In what area the Advisers Students' Record Management System (ASRMS) can be improved?*

The Advisers Students' Record Management System (ASRMS) was created to lessen the burden of teachers in preparing SF9 and SF10 of the students. To give avenue for recommendations on how the system may improve the researchers asked the respondents to solicit recommendations that may help system to improve.

This automated system for SF9&SF10 is very helpful and efficient. The system is a great help and serves its purpose as it is. The system will help the advisers for recording school forms such as SF9 and SF10. The system is easy to use and really

helps to lessen the burden of the teachers. The system made is indeed a huge help and an ease to comply with the tasks of an adviser in terms of the accuracy in data preventing errors in the encoded information of students and their grades. The advisers commend the efforts of the researchers/creators in developing the system to help the advisers in making their task easy.

Behind the success of the utilization of the system the following recommendation were being presented during the evaluation of the system. First, try to improve the formatting for the dates to avoid changes in values once the system will be pass on different laptop/desktop users. The respondents also suggested to include the types of learning modality used by the students in the summary sheets to avoid changing before printing the documents. Name of the student must also appear in the back part of the SF10. It is also recommended that the system has default subjects once the grade level and strand was already selected. One of the respondents also suggested to connect the system in other forms like SF1, SF2, SF3, and prospectus if given the time is still available. Last it is also recommended to connect the grade sheets of the teacher directly to the system in the future.

IV. CONCLUSIONS

Based on the yielded data, the researchers can conclude the following:

The provided system is very helpful to the teacher-advisers in accomplishing DepEd School Forms SF9 and SF10 and in identifying students with honors.

The provided system generates only SF9 and SF10. It is the best system if all forms of DepEd will be included.

RECOMMENDATIONS

Based on the results of the study the researchers presented the following recommendations are as follows:

To the School Head. The researchers recommend the school head of the school to provide advanced training in Microsoft Excel and other Data Management to enhance the creator skills in upgrading the system.

To the Advisers. The researchers recommend that more LAC sessions be held for teachers to improve their digital competence, which is useful in using the system. It is also suggested that the teacher attend a seminar on Advanced use of Microsoft Excel to improve their skills with the software.

To the other District Schools. Different district school may adopt the system used by the creator through benchmarking to minimize paperwork preparations and to increase the accuracy and reliability of the students' documents being prepared.

To the System Creator. Considering all the recommendations and suggestions of the advisers who use the system in developing student records. These recommendations are great help to improve the system in the future.

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REFERENCES

- [1]. Phister and Olwell (2022). SEBoK: Guide to the Systems Engineering Body of Knowledge. System Reliability, Availability and Maintainability https://www.sebokwiki.org/wiki/System_Reliability,_Availability,_and_Maintainability
- [2]. Schenkelberg F. (2022). Reliability and Maintainability Management; A Primer https://reliabilityweb.com/articles/entry/reliability_and_maintainability.
- [3]. Knudsen (2021). School Report Cards in The Gambia Exploring perceived opportunities and challenges of digitization. <https://www.mn.uio.no/ifi/english/research/groups/is/research-library/masters-theses/master-oystein-knudsen.pdf>
- [5]. Ofresio A. D. (2017). Improving timeliness in the submission of risk profiling report through process documentation. https://animorepository.dlsu.edu.ph/etd_masteral/5602/
- [6]. Amrutkar K.P. & Kamalja K. K. (2017). An Overview of Various Importance Measures of Reliability System, 8(3), 150-171. <file:///C:/Users/Gilbert%20Cruz/Downloads/14-ijmems-si-vol.-2-no.-3-150171-2017.pdf>