EFFECTIVENESS OF STUDENTS PREDICTION MONITORING AND EVALUATION TOOLS (SPMET): BASIS FOR MANAGING STUDENT RECORDS

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Abstract: The researcher developed a system tool, the Students Prediction, Monitoring and Evaluation Tool (SPMET), that helps the teachers to monitor and evaluate the student performance and records. The researcher determined the perception of respondents on the features of the tool in terms of content, clarity, user interface and usefulness and the level of effectiveness on the function in terms of Benefits, Usability, Accuracy and Safety of the records and Confidentiality. Furthermore, the significant relationship between the perception on the features of SPMET and effectiveness as to the functions was tested using person r at the 0.05 level of significance. The respondents of the study were 58 teachers of District of San Francisco, Quezon province. Based on the findings, the respondent's perceived that the features of SPMET and its functions are all Highly Evident and Effective. Moreover, it was revealed that the features and functions of SPMET were not related except for Usefulness which is related to the Safety of the Records and Confidentiality, which lead to the conclusion that the hypothesis of the study was Partially Sustained. Because only the evident level on the features in terms of Usefulness and the level of effectiveness on the function in terms of Safety of the records and Confidentiality has the significant relationship. It is recommended that for the future researchers to conduct additional study and connect or have to correlates the features and functions. The researcher encourages to use SPMET as basis of the solution-based action research based on the results given by the tool and it can be an eye opener to all the teachers, administrators and even the parents and guardians in accessing their child / student.

Keywords: Students Prediction Monitoring and Evaluation Tools (SPMET), Effectiveness, Features of SPMET, Function of SPMET

INTRODUCTION

Monitoring system to detect the performance of students as early as possible is one of the necessities of every school. This is to make an appropriate intervention especially for those students at risk. Somehow, the available monitoring system in the Philippines requires internet connectivity. The absence of internet connection in most rural areas in the Division of Quezon is one of the reasons that the schools cannot use an online monitoring system. Teachers have difficulty in classroom management in detecting the main problems of every learner as well as keeping records of students output and making reports required by the Division office.

When teachers use student progress monitoring, students learn more, teacher decision, making improves, and students become more aware of their own performance. The use of systematic progress monitoring to track students' performance in all subjects able to identify students in need of additional or different forms of instruction, teachers can design stronger instructional programs, and students achieve better. There are many benefits to monitoring student progress on an ongoing basis in the classroom. Regular formal and informal assessments provide teachers with valuable information on the progress and achievements of their students. Not only this, but monitoring student progress also gives teachers the opportunity to reflect on their own teaching and assess the impact of the instructional strategies they use.

Mendes et al. (2005) state that one of the most important aspects in influencing the students' progress is the close monitoring by the teachers in order to identify in time the learning problems that may occur and act accordingly.

According to Fonseca et al. (2016) the use of automatic assessment tools permits teacher to monitor students' progress when a problem is detected.

Meanwhile, Raabe et al. (n.d.) claim that the students' performance is highly coupled with the capacity that the teachers have to detect their difficulties and react within useful time.

Comprehensive monitoring and evaluation are a continuing function that uses systematic collection of data that provide indications of the extent of progress and achievement of objectives and progress. Recording of data and other tasks by the students is in the hand of teachers. Part of teachers' role is to monitor comprehensively the performance of their students. While monitoring students' activity and performance is vital to enable educators to provide effective teaching and learning in order to better engage students with the subject and improve their understanding of the material being taught. Students learn better if they are involved in practical and independent activities. (Iqbal & Doctor, 2012)

In order to assess students' progress on learning tasks it is necessary to capture data about the underlying characteristics of learners; engagement, behavior and performance on learning tasks. However, teachers should build comprehensive implementation of monitoring tool. Teachers should know their perceptions about implementing of monitoring with commitment, their ability to use a computer-based program, their comfort in doing so, and the quality of the data it enabled them to view. (Young, 2018)

SPMET – It refers to the Students Prediction Monitoring and Evaluation Tools that predicts the status of the students based on the results of their performance likewise evaluate the students.

OBJECTIVES OF THE STUDY

Develop a tool that combine all the forms for easy access of the records or data of the students even offline. Also, students and parents can access all the records in one macro file. The tool created bring awareness of students' performance.

METHODOLOGY

The methodology in undertaking the study which includes the research design, respondents of the study, research instrument, research procedure and the statistical treatment of data for analysis and interpretation.

Research Design

To accomplished the study's objectives, descriptive correlational method research design was utilized. It is appropriate to gather information about the present condition. The descriptive type of research is used to determine the acceptability and effectiveness of the Students Prediction Monitoring and Evaluation Tools (SPMET).

Respondents of the Study

The respondents of the study were of fifty – eight (58) secondary school teachers (Junior and Senior High School) in the district of San Francisco, Quezon. They are described in terms of their gender, age, Plantilla position, specialization, length of service (years) and educational background. They were chosen through purposive sampling technique.

Research Instrument

The researcher administered standardized survey questionnaire and a modified survey questionnaire already used in research to determine the evident level and the level of effectiveness of Students Prediction Monitoring and Evaluation Tools (SPMET).

Part I. The survey instrument includes indicative statements about the perception of the respondents on the Evident Level of Students Prediction Monitoring and Evaluation Tools (SPMET) in terms of Content, Clarity, User Interface and Usefulness. Likewise, similar survey instrument for the Level of Effectiveness of SPMET as to Benefits, Usability, Accuracy and Safety of the record and Confidentiality.

Part II. The survey questionnaire about the Evident Level on the features of SPMET and effectiveness on the function of SPMET among the teacher-respondents were determined using a 5-point Likert scale namely; 5 – Highly Evident 4 – Very Evident, 3 – Evident, 2 – Moderately Evident and 1 – No Evident. While the Level of Effectiveness on the functions of SPMET also used the 5-point Likert scale Namely; 5 – Highly Effective 4 – Very Effective 3 – Effective 2- Moderately Effective 1-Not Effective.

Part III. The tool was validated by the expert in Information Technology (IT), they checked the instrument for the forms are all working, bugs in the system, function of the buttons, and give the right results base on the data encoded by the users.

The survey questionnaire was validated by IT experts who are not included as respondents.

The draft of the survey questionnaire was presented to the member of the panel for comments, suggestions and revisions. Immediately, the researcher edited the instruments base on the recommendations of the panel. Finally, the researcher seek approval to conduct the study from the concerned authority.

Research Procedure

Monitoring and evaluating every learner's performance is a vital action of every school in the Department of Education (DepEd), thus it provides school monitoring program and evaluation system wherein one of their top priorities is the Learner Tracking. A process designed to monitor the participation and progress (academic and social) of the learners. Information about the learners' performance will provide vital information on the relevance and responsiveness of the school programs and projects. The tracking includes the performance of the learners inside the classroom (slow, average or fast learners), attendance that Involves tracking learners who are at risk of dropping out, information on the health and nutritional status of the learners and even the learner's participation in school-wide activities.

Since most of the teachers in DepEd are already exposed in Information and Communication Technology (ICT), the use of gadgets such as laptops and computers, internet connectivity, and other work-related software really help them to make their work easier and convenient specially in monitoring learners' progress which is the primarily goal of DepEd's monitoring and evaluation program.

The researcher a teacher at Casay National High School developed a tool for monitoring and evaluation for learners and keep the students records through Students Prediction Monitoring and Evaluation Tools (SPMET).

Before the study was formally conducted, a letter of permission to conduct the study was requested to the District Supervisor, Principal and School Head of San Francisco, Quezon. Upon approval, the developed Students Prediction Monitoring and Evaluation Tools (SPMET) was validated by the panel of Experts. after the validation, the tool was utilized by the respondents. The research instrument was subjected to usage approval by the Panel of Experts. With the approval from the adviser, the researcher set the most favourable date in facilitating useful data collection. Upon the completion of the questionnaire, the researcher retrieved the instrument for data analysis.

The results of the survey were subjected to statistical treatment for analysis and interpretation.

Statistical Treatment of Data

For the analysis and interpretation of the gathered data, the following statistical tools was applied.

1. Mean and Standard Deviation, Frequency and Percent were utilized to determine the function of respondents on the Students Prediction Monitoring and Evaluation Tools (SPMET) tool.

2. Pearson Product Moment Correlation was used to determine the significant relationship of the independent variables to the dependent variables.

RESULTS AND DISCUSSION

The results of the statistical analysis, and the interpretation of findings. These are presented in tabular forms following the sequence of the specific research problem regarding the evident level on the features and the level of effectiveness of Students Prediction Monitoring and Evaluation Tools (SPMET). These data are further analyzed and interpreted so as to draw relevant conclusions and recommendation.

Table 1. Profile of the Respondents as to Sex, Age, Status of Teaching Position, Educational attainment and Field of specialization.

PROFILE	F	%
Sex		
Male	**12**	**20.69%**
Female	**46**	**79.31%**
Age		
46 years old and above	**3**	**5.17%**
to 45 years old	**2**	**3.45%**
36 to 40 years old	**6**	**10.34%**
31 to 35 years old	**7**	**12.07%**
26 to 30 years old	**16**	**27.59%**
20 to 25 years old	**24**	**41.38%**
Teaching Position		
Teacher I	**38**	**65.52%**
Teacher II	**13**	**22.41%**
Teacher III	**7**	**12.07%**
Educational Attainment		
Doctorate degree with unit earned	**2**	**3.45%**
Masters of Arts degree	**6**	**10.34%**
Masters of Arts degree with unit earned	**42**	**72.41%**
Bachelor's Degree	**8**	**13.79%**
Field of Specialization		
English	**11**	**18.97%**
Filipino	**9**	**15.52%**
Science	**10**	**17.24%**
Mathematics	**13**	**22.41%**
Ap/Social Studies	**5**	**8.62%**
Music, Arts, Physical Education and Health	**4**	**6.90%**
Technology and Livelihood Education	**5**	**8.62%**
Edukasyon Sa Pagpapakatao	**1**	**1.72%**

N=58

The first table resented in the next page presents the profile of the teacher respondents in terms of Sex, Age, Status of teaching position, educational attainment and field of specialization.

The data reveals that majority of the respondents are female, with a total number of 46 or 79.31% and only 12 or 20.69% are male respondents. The female respondents are the majority because teaching profession dominated by female.

The table also shows that out of 58 respondents, twenty-four (24) or 41.38% are belongs to 20 – 25 age bracket, 16 or 27.59% are under the 26 – 30 years of age, 7 or 12.07% are under 31 – 35 years of age, 6 or 10.34% are under 36 – 40 years of age, 3.45% or 2 only are in 41 – 45 years of age and 3 or 5.17% are under 46 and above age bracket.

With regards to teaching positions, data reveals that majority or thirty-eight (38) out of 58 or 65.52% are Teacher I, 13 or 22.41% are Teacher II and 7 or 12.07% are Teacher III. Finding implies that majority of the teacher respondents are at their younger age and have just started their teaching profession.

Noticeable in the results of the respondents' profile as to Educational Attainment, that majority of them with forty-two (42) or 72.41% have earned units in masters' degree. While, two (2) or 3.45% have a Doctorate Units. Evidently, results show that teachers are aware and willing for their professional development.

It shows the distribution of respondents' profile as to their Field of Specialization. Out of 9 subjects the English Major teachers are 11 or 18.97%, Filipino Major teachers are 9 or 15.52%, Science Major teachers are 10 or 17.24%, Mathematics Major teachers are 13 or 22.41%, AP/Social Studies Major teachers are 5 or 8.62%, MAPEH Major teachers are 4 or 6.90%, TLE Major teachers are 5 or 8.62% and Only 1 or 1.72% is ESP Major teachers. The highest number of Teachers with Specialization is Mathematics with 13 out of 58.

Table 2. Summary of respondents' perceptions on the features of SPMET

Features of SPMET	Mean	SD	Verbal Interpretation
1. Content	4.79	0.44	Highly Evident
2. Clarity	**4.87**	**0.34**	Highly Evident
3. Users' Interface	4.82	0.41	Highly Evident
4. Usefulness	4.84	0.37	Highly Evident
Overall	**4.83**	**0.39**	Highly Evident

Legend: 4.50 – 5.00 – Highly Evident *3.50 – 4.49 – Very Evident* *2.50 – 3.49 – Evident*
1.50 – 2.49 – Moderately Evident *1.00 – 1.49 – Not Evident*

The table 2 presents the summary on the evident level on the features of SPMET.

With the overall mean of 4.83 the features of SPMET have the highly evident verbal interpretation meaning that the features of SPMET achieved according to the respondents. The features of SPMET maximized the use of the tool and have a typical quality for a tool in monitoring the performance of the student. Among the features of SPMET, Clarity has the highest mean 4.87. The results mean that SPMET has been clarify to the respondents. It gives results clear and can identify the usage of the tool.

The mean of 4.79 the lowest mean on the features of SPMET is the content, even it is the lowest mean the evident level is highly evident, meaning SPMET has a little feature needed to become much better.

According to Comai et al. (2019) believe that an early warning system is a tool that involves the management of a process of building an advanced competitive intelligence operation for the well-being of the organization. This is also related when it comes to monitoring the performance of students. An early warning tool will serve as intervention on the delinquencies of the students.

Building with this tool, SPMET, we can maximize the job of our teacher because it only takes small time in doing SPMET, so we have a lot of time for the teaching process.

Table 3. Summary on the level of Effectiveness on the functions of SPMET

Functions of SPMET	Mean	SD	Interpretation
1. Benefits	4.85	0.39	Highly Effective
2. Usability	4.83	0.42	Highly Effective
3. Accuracy	4.86	0.35	Highly Effective

4. Safety of the records and Confidentiality	4.87	0.32	Highly Effective
Overall	4.85	0.37	Highly Effective

Legend: 4.50–5.00 – Highly Effective *3.50 – 4.49 – Very Effective* *2.50 – 3.49 – Effective*
1.50 – 2.49 – Moderately Effective *1.00 – 1.49 – Not Effective*

Table 3 presents the summary on the level of Effectiveness on the functions of SPMET.

Finally, the evident revealed the Overall mean of the summary on the level of Effectiveness on the functions of SPMET, its 4.85 mean is highly effective. It implies that all the function of SPMET was perceived effective according to the respondents. With the Overall mean of 4.87 the highest of the four function is the Safety of the records and Confidentiality, stated that by using the SPMET the records and the results are safe and confidential between the authorized users. The results are kept in a one micro-file, easy to store and an offline tool for future references and basis to give a solution on the class-based problems. All the average Mean on the function of SPMET have a minimal interval but with this the lowest mean on the functions is the Usability with 4.85 mean, the respondents thinks that from the four function the Usability are the least priority of all functions. But even if it is the lowest the function of SPMET in terms of Usability is highly effective. SPMET are still usable and have enough functions to helps teachers in their record keeping and analyzing results from the given data.

According to Prasko, S. SI. T, M. H. (2022), the function of a research is to find explanations and answers to the problems and to provide an alternative to the possibilities that can be used for troubleshooting. Explanations and answers of the problem can be abstract and general as well as in basic research, and can also be very concrete and specific.

SPMET will not be possible if the functions are questionable or not enough to run a system or tool, like SPMET it will not be complete if one of the functions are weak, SPMET will collapse and it will not give a reliable result. Based on the respondents all the functions of SPMET meet the standards for being a highly effective tool.

Table 4. Correlation between the level of Evident on the Features and Level of Effectiveness on the Functions of SPMET

SPMET	Benefits	Usability	Accuracy	Safety
	r-value	**r-value**	**r-value**	**r-value**
Content	0.18	0.010	-0.013	0.164
Clarity	0.18	0.010	-0.013	0.164
User interface	0.18	0.010	-0.013	0.164
Usefulness	-0.24	0.009	0.035	**0.749****

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Table 4 shows the test of correlation between the SPMET Evident Level and Level of Effectiveness of SPMET. It is revealed that only evident features of SPMET in terms of Usefulness and level of effectiveness on the functions of SPMET in terms of Safety of the records and Confidentiality has the correlation of 0.749 r-value. It means that the indicators in Usefulness and Safety of the Records and Confidentiality have the strong correlations. The indicators in evident level on the features of SPMET in terms of Usefulness such as; The tool provides real-life task applicable to the teacher's actual work, as teacher all the work is assigned to the teacher with the SPMET it can generate a result based on the given data from the student that later will become a basis for a simple solution that are applicable to the given situations. By encoding just, the name and LRN of the students all the forms from the SPMET will have their names and also can generate their own profile. The SPMET can generate more results from minimal encoding, it can be used in all types of computers, laptop, netbooks and other gadgets that have Microsoft

Excel on it. SPMET don't have a good time to encode data because SPMET can be use anytime and anywhere. With the power of flash drives, pen drive even if the storage from our own smartphone SPMET ca easily transport and transfer offline to another computer without internet. SPMET gives an advance time to communicate with the student based on their performance right after the teacher encode the needed data that will provides opportunity for the teachers to communicate immediate feedback to the learners. SPMET can use the many times as you can.

The Highly effectiveness on the functions of SPMET in terms of Safety of the records and Confidentiality such as; SPMET is password protected and the security of the records are guaranteed with these functions the user or the teacher are responsible to the password, SPMET have a restriction of editing cell that are not mend to be edited, only the part with editable cell are able to encode, the researcher used these functions for the result can't be tampered. All the result generated in SPMET are carefully formulated with the prescribed formulas provided by the department for the SPMET have reliable results. SPMET also maintain the privacy of the Records only between the concerns individual can see the results. SPMET is easy to maintain and the Owner or the Advisers are reliable for their own tool.

SUMMARY OF THE FINDING

The following are the key findings of the study:

Among the Fifty – Eight (58) or 42% respondents of the study majority of them were female, also most of the respondents have their Master's Units with 72.41 %, meaning that most of the respondents want to have additional knowledge on the field of teaching, however, 66% of them are still in Teacher I position.

The perception of teacher respondents on the features of SPMET as to Content, Clarity, User Interface and Usefulness were all Highly Evident. The overall mean of 4.83 as Highly Evident, denotes that it gives the respondents a clear idea of what they should achieve at the features of Students Prediction Monitoring and Evaluation Tools (SPMET).

The perception level of effectiveness on the functions of SPMET was described by the respondents as to Benefits, Usability, the Accuracy and Safety of the records and Confidentiality were Highly Effective. The overall mean of 4.84 as Highly Evident, described that its Students Prediction Monitoring and Evaluation Tools (SPMET) is highly effective in providing results in the field of teaching.

It is noticeable that only the features of SPMET in terms of usefulness and the functions of SPMET in terms of safety of the records and confidentiality has shown significant relationship with r 0.749.

Finally, the evidence shows the test of correlation between the SPMET Evident Level on the features and Level of Effectiveness on the functions of SPMET, it's revealed that among the features of SPMET it is only Usefulness which was found significantly related to the effectiveness of SPMET be described in terms of Safety of the records and Confidentiality, implying that all the respondents believed that the Usefulness of the tool are associated with the Safety of the records and Confidential for the tool to make it evident and effective.

CONCLUSION AND RECOMMENDATION

Based on the findings of this study, the hypothesis stating that there is no significant relationship between the perception of the respondents' evident level on the features of SPMET as to Content, Clarity, User Interface and Usefulness and the perceived level of effectiveness on the functions of SPMET as to Benefits, Usability, Accuracy and Safety of the records and Confidentiality is therefore Partially Sustained. Since only the evident level on the features of SPMET in terms of Usefulness and the level of effectiveness on the functions of SMET in terms of Safety of the records and Confidentiality have significant relationship with one another.

Based on the results of the study, the following recommendations are hereby offered:

1) The researcher and creator of SPMET may initiate to patent the tool for intellectual property.
2) The researcher may put additional feature to be available also online.

3) With the availability of modern technology today we may make our work pattern with the current trend using SPMET in monitoring and evaluation of the student performance is relevant.
4) Since the study only covers the use of SPMET the researcher encourages to use SPMET as basis of the solution-based action research based on the results given by the tool and it can be an eye opener to all the teachers, administrators and even the parents and guardians in accessing their child / student.
5) Future researchers can to conduct additional research and connect or have to correlates the features and functions.
6) School administrators to organize training on the implementation of the SPMET and provide higher solutions from the bottom part of the organization.
7) The researcher may encourage collaboration among teachers to develop more tool to lessen the work load of the teacher and to generate reliable and valid data across all department.
8) Future researchers to conduct an experimental study to find out the impact of SPMET in the School, Districts, Divisions, Regions, National and even international.
9) Future researchers my interconnect the data from the bottom to the top management e.g. from School to District, District to Division, Division to Region, Region to National, National to International, so that the problem from the bottom will be address to the top and won't be repeated anymore.
10) The researcher may create a contact number for the users if they encounter problem when using SPMET.
11) The Student Prediction Monitoring and Evaluation Tools (SPMET) is subject for suggestions or recommendation for the improvement of the tool with proper documentation.

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