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PROFESSIONAL STANDARDS AND INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) COMPETENCIES

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Abstract

The primary objective of this research study was to determine the level of the Philippine Professional Standards for Teachers (PPST) with regard to learning environment, diversity of learners, curriculum and planning, assessment and reporting, community linkages and professional engagement, and personal growth and professional development, as well as the level of ICT competencies with regard to social, didactical, pedagogical, and technological aspects. Lastly, the purpose of this research project is to investigate the connection between teachers' professional standards and their ability to use information and communications technology (ICT).

The responders of the survey were comprised of a total of one hundred different educators. The selection of the teachers was done via a random sample. When putting the assumptions of this research to the test, multiple regressions were applied. According to the findings, the vast majority of those who responded demonstrate a high level of competence in accordance with the Philippine Professional Standards for Teachers in the following areas: learning environment, diversity of learners, curriculum and planning, assessment and reporting, community linkages and professional engagement, personal growth and professional development. In a similar fashion, educators have a high level of ICT Competency in terms of their social, didactical, pedagogical, and technical knowledge and abilities. In addition, the ICT Competencies in terms of social have a strong and significant relationship with the Professional Standards of Teachers in terms of diversity of learning, curriculum planning, assessment and reporting, community linkages and professional engagement, and personal growth and professional development. In conclusion, the findings of the regression analysis showed that the professional standards of instructors had a substantial effect on the level of technical expertise possessed by students' ICT skills. On the other hand, there was not a discernible impact on the professional standards of teachers or the ICT capabilities in terms of pedagogical, didactical, or social concerns.

Keywords: Professional Standards, ICT Competencies, Assessment and Reporting, Didactical Philippines.

1. INTRODUCTION

Nearly every day during the COVID-19 pandemic, the media reports realistic stories of the accomplishments and struggles of instructors. These stories include the following: teachers working extra hours, gaining new technological knowledge, video conferencing through various social media platforms, having difficulty getting through to every learner, and having difficulty making significant relationships with learners in their classes. Any parent or guardian whose child participates in remote learning can attest to the fact that adapting to the shifting dynamics of the educational setting has been challenging for them. Teachers are addressing these concerns for their students and alongside them, and they do so with varying degrees of support from their respective states and school districts (Diliberti, 2020).

According to Semih Summak and Samancolu (2011), the effective use of information and communication technology (ICT) in educational institutions may have a beneficial effect on the learning environments. The issues might be resolved by a certain leader inside the institution. The incorporation of ICT presented difficulties to the administration of the school, which in turn caused problems for the school's administrators, instructors, and students, as well as for the curriculum. Based on the findings of this research, schools in Matalam, Cotabato were impacted by the delivery of ICT integration. As a result, the incorporation of ICT into the educational system requires further investigation so that a deeper understanding of its application to school performance and curriculum can be achieved.

The use of information and communication technology (ICT) has become a significant component of the teaching and learning process for both instructors and students. ICT is used both within and outside of the classroom. The government and other educational stakeholders, such as school administration and researchers, have committed millions of dollars over the course of the preceding two

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decades on the incorporation of ICT into the educational system (Lawrence, 2015). On the basis of the problem statement and the research gaps that have been identified, it has become clear that there is a pressing requirement to investigate the application of ICT in school education programmes and investigate the impact that this application has on the performance of both teachers and students. In this respect, the suggested study was meticulous in its evaluation of the method in which schools have embraced the use of ICT, the degree to which they have adopted its use, and the manner in which the adaption of ICT has therefore had an influence on the performance of instructors. The study that was suggested also highlighted critical aspects that contribute to the performance of schoolteachers and how information communication technology influences these factors.

2. STATEMENT OF THE PROBLEM

This study aimed to examine the ICT competencies and the qualities of teachers. Specifically, the study answers the following questions:

1. What is the teachers' level of Philippine professional standards in the learning environment, diversity of learners, curriculum and planning, assessment and reporting, community linkages and professional engagement, and personal growth and professional development?
2. What is the level of information and communication technology (ICT) competencies in technological, pedagogical, didactical, and social?
3. Is there a significant relationship between professional standards and ICT competencies?
4. Is there a significant influence of the level of professional standards of teachers and ICT competencies?

3. CONCEPTUAL FRAMEWORK

The research makes use of the pertinent information on the instructors' ICT abilities and attributes, as well as the indicators of such characteristics. Changes in the educational environment's use and integration of ICT seemed to have an effect and influence, as well as produce a significant shift in teachers' performance. Unfortunately, many educators struggle to keep up with the demands of integrating technology in the classroom and encounter a variety of obstacles as a result. This research also develops a paradigm that illustrates the interrelationship of the variables and the indicators of those relationships. The illustration demonstrates the relationship and influence between the professional standards for teachers, which include learning environment, diversity of learners, curriculum and planning, assessment and reporting, community linkages and professional engagement, as well as personal growth and professional development, and the ICT competencies, which include technological, pedagogical, didactical, and social aspects.

The information and communication technology competences (derived from Husain, 2012) are the focus of this research. These abilities are broken down into four categories: technical, pedagogical, didactical, and social.

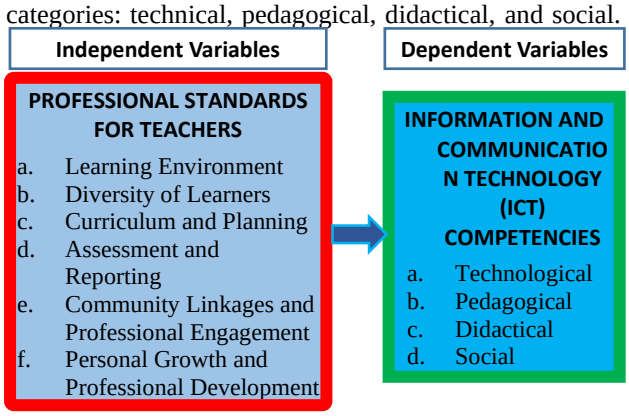


Figure 1 Schematic Diagram showing the Independent and Dependent Variables

4. DATA GATHERING METHODS

In order to collect the necessary data to finish this study, the researcher drafted a letter requesting authorization to carry out the survey, which was first taken notice of by the Dean of the Graduate School. In the aforementioned letter, the researcher asked the Schools District Supervisor of the study location for permission to carry out the research. This letter was sent to the supervisor for approval. Following the approval of the researcher's letter by the public school district supervisor, the researcher then sends a copy of the letter to the principals of primary schools. In the end, the researcher gave the respondents the questionnaire to fill out and then collected it so that he could tabulate and analyse the results.

5. PARTICIPANTS OF THE STUDY

The participants in this survey are the primary school teachers working in the Matalam municipality during the 2020-2021 academic school year. The responders are comprised of one hundred educators chosen from a variety of schools in the Matalam municipality. As a result of the widespread nature of the disease and the fact that there is no guarantee that any of the teachers (listed in table 1) will take part in the research being carried out, the researcher chose to limit the sample size to one hundred participants so as to guarantee that at least one teacher will be able to take part. This number was sufficient for the researcher to collect and compile relevant data for the study.

Table 1 Data on the Distribution of the Respondents (all grade level in Matalam South District)

Schools	Population of Teachers
Matalam South District Conrado Biscarra ES	4
Dalapitan ES	19
Kidama ES	9
New Pandan ES	9
Estado ES	6
Kilada ES	19
F. Valdevieso ES	7
Taculen-Malamote ES	11
Manubuan ES,	9
Central Malamote ES	13
Marbel ES	15
Matalam CES	43
Leonard ES	6
Manupal ES	8
New Bugasong ES	8
West Patadon ES	4

Ilian ES	7
MatalamSouth District	
Kibudoc ES	9
Kibia ES	15
New Tigbauan ES	7
New Abra ES	9
Natutungan ES	7
New Xavier ES	8
Rajah Sumonsang ES	4
Kabulacan ES	11
MatalamNorth District	
Bangbang ES	9
Kinilid ES	8
Latagan ES	12
Linao CES	18
Minamaing ES	8
Natipakan ES	8
Sarayan ES	9
Sta. Maria ES	11
Matalam West District	
Arakan ES	9
Bato ES	8
Diosdado Almarines ES	7
Eden ES	7
Imelda ES	9
Kulog ES	7
Langka ES	9
Layangan ES	8
Marva ES	11
New Alimodian ES	13
Pinamaton ES	8
Taguranao Central ES	15
OVER ALL TOTAL	**451**

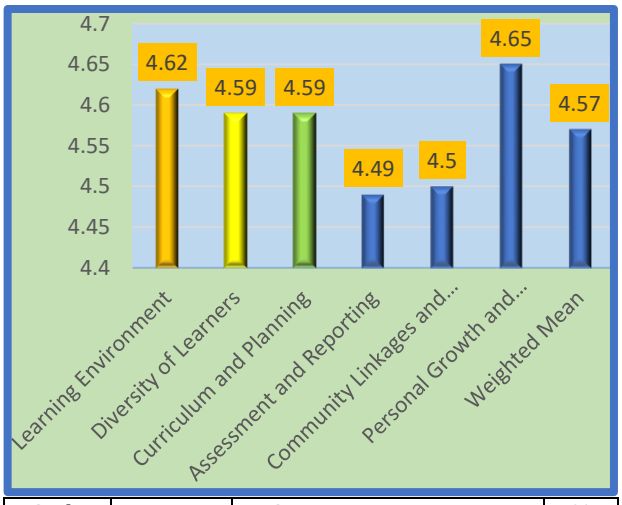
Table 1 comprises the total population of teachers teaching at all grade levels and the number of respondents participated in the study's conducted.

6. RESULTS AND FINDINGS

Summary of Results and Discussions

Research Problem No. 1

Teachers' level of Philippine professional standards in the learning environment, diversity of learners, curriculum and planning, assessment and reporting, community linkages and professional engagement, and personal growth and professional development

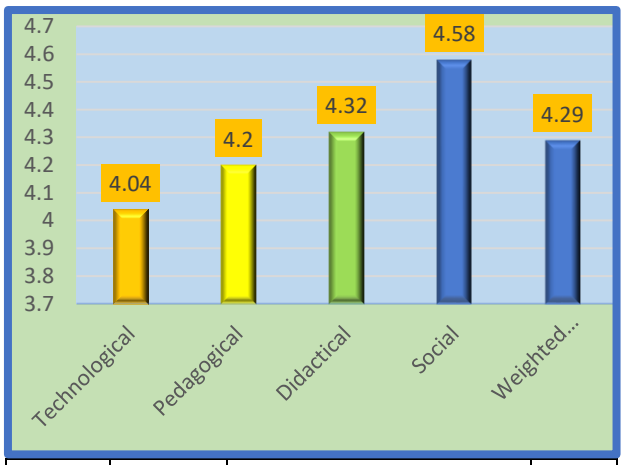


Scale	Description	Quantitative Description	%
4.21–5.00	Highly Competent	It means that the statement is at a very highly competent level.	81–100
3.41–4.20	Competent	It means that the statement is at a highly competent level.	61–80
2.61–3.40	Moderately Competent	It means that the statement is at a moderate competent level.	41–60
1.81–2.60	Less Competent	It means that the statement is at a less competent level.	21–40
1.00-1.80	Very Less Competent	It means that the statement is at a very less competent level.	01–20

To summarise the teacher's level of professionalism according to Philippine professional standards in the learning environment, personal growth and professional development received the highest weighted mean of 4.65, which is described as highly competent. This was followed by the learning environment (4.62), diversity of learners (4.59), curriculum and planning (4.59), community linkages and professional engagement (4.5), and assessment and reporting (4.5), all of which have the same description as highly competent. The total weighted mean for the level of Philippine professional standards attained by the instructor in the classroom was 4.57, which corresponds to the descriptor "very competent.".

Research Problem No. 2

Level of information and communication technology (ICT) competencies in technological, pedagogical, didactical, and social



Scale	Description	Quantitative Description	%
4.21–5.00	Highly Competent	It means that the statement is at a very highly competent level.	81–100
3.41–4.20	Competent	It means that the statement is at a highly competent level.	61–80
2.61–3.40	Moderately Competent	It means that the statement is at a moderate competent level.	41–60
1.81–2.60	Less Competent	It means that the statement is at a less competent level.	21–40
1.00-1.80	Very Less Competent	It means that the statement is at a very less competent level.	01–20

To summarise the level of ICT competencies that teachers have, the social domain obtained the highest weighted mean of 4.58, which is described as highly competent. This was followed by the didactical domain, which obtained 4.32, and the pedagogical domain, which obtained 4.2, both of which also have the description of highly competent. The most proficient score was achieved by technological, which had a weighted mean of 4.04, the lowest possible score. In conclusion, the degree of instructors' knowledge of information and communications technology was given an overall weighted mean score of 4.29, which corresponds to the descriptor "very competent."

Research Problem No. 3

Table 2 shows the significant relationship between professional standards and ICT competencies. It was revealed that there is significant relationship between diversity of learning and social (.174, .021). The results revealed that diversity of learning lingered towards the social experiences when it comes to professional standards of teachers. The social environment influences learning by providing a linguistic environment and an experience environment that encourage the mind to expand, as well as by rewarding a pupil for learning in a methodical manner. It can be now understood smore clearly than ever before those important times for mental development occur throughout the pre-school years.

Table 2 Relationship between Professional Standards and ICT Competencies

			Technological	Pedagogical	Didactical	Social
Spearman's rho	Learning Environment	Correlation Coefficient	-0.095	0.051	0.006	0.117
		Sig. (2-tailed)	0.213	0.506	0.940	0.125
	Diversity of Learners	Correlation Coefficient	-0.025	0.088	0.070	0.174*
		Sig. (2-tailed)	0.741	0.248	0.360	0.021
	Curriculum and Planning	Correlation Coefficient	-0.080	0.084	0.036	0.156*
		Sig. (2-tailed)	0.292	0.268	0.633	0.039
	Assessment and Reporting	Correlation Coefficient	-0.043	0.100	0.094	0.209**
		Sig. (2-tailed)	0.571	0.187	0.214	0.006
	Community Linkages and Professional Engagement	Correlation Coefficient	-0.083	0.059	0.094	0.206**
		Sig. (2-tailed)	0.277	0.440	0.217	0.006
	Personal Growth and Professional Development	Correlation Coefficient	-0.095	0.093	0.073	0.213**
		Sig. (2-tailed)	0.210	0.219	0.334	0.005

*** Highly Significant; * Significant at 5% level*

According to the findings of the research, there is a correlation between teacher professional standards and the diversity of learning that focuses on social encounters. Learning is affected by a person's social environment because it provides a linguistic and experiential context that fosters the growth of one's intellect and also because it rewards a student for learning in a methodical manner.

As a result, its contribution consists in deconstructing discredited hypotheses and prejudice with respect to other people. In addition, people are taught by a variety of cultures to recognise and appreciate "ways of being" that are not necessarily their own. Therefore, individuals may commence the process of building faith, esteem, and perception of multiculturism via intercommunication with other people. (Cajilig, 2011).

It was also clear that there was a close connection between the preparation of the curriculum and the social setting (.156, .039). The development of a student's social and ICT et can experiences was shown to have a significant link to the curriculum. As a consequence of this, the curriculum and planning, much like society as a whole, are intricately linked with or reliant on one another. It is challenging to construct an ideal society without education, and it is as challenging to organise an educational system that works well in the absence of society.

According to the findings of the research, educational and social planning should centre on the needs of students and the objectives they have for their education. It is possible for educators to develop learning activities using this concept in order to produce persons who are both lifelong learners and socially responsible citizens. This facet is founded on a shared tenet of values and a distinct vision for the appropriate way in which education and learning should be carried out.

The findings of the investigation were consistent with the hypothesis that Beane, Toepfer, and Alessi had proposed (2016). Education and the process of developing educational curricula go hand in hand, and both contribute to the growth and development of the other. For example, the curriculum is the foundation upon which education is constructed, and it is the curriculum that determines the degree of education that is offered.

In addition, there was a strong and substantial link between social assessment and reporting and (.209, .006). The findings of the study indicated that assessment is an essential part of the teaching and learning process because it requires the collection, interpretation, and evaluation of data pertaining to the performance of students. This finding led the researchers to the conclusion that assessment is an important part of the teaching and learning process. The effectiveness of the teaching methods used in the classroom is directly related to the level of knowledge acquired, making it essential for students to be socially involved. This suggested that assessment and reporting are intimately linked: the results of the assessment define the teaching that is offered, and similarly, the instruction determines the kind of assessments that are utilised as well as the assessment outcomes.

According to Loreman (2010), assessment and reporting are ways that teachers use to monitor, evaluate, document, and report on the needs, progress, and successes of their pupils. In addition, Community Linkages and Professional Engagement exhibited a substantial association between social isolation and social support (. 206, .006). The findings of the research indicated that adaptive teaching and learning environments should be established in community-based settings. The end result is improved programme quality, more efficient use of resources, and greater goal alignment since it helps to grow, support, and even transform individual associates. This suggests that professional involvement and community ties emphasise the role that teachers have in creating school-community links.

As a result, community connections and professional engagement serve to emphasise the duty that teachers have to develop links with many stakeholders in order to improve both the school and the community's participation in the learning process. As a result, community ties and professional engagement need the participation of adolescents, families, employers, organisations, and other stakeholders in evaluation processes, as well as in the formulation and execution of plans and decisions (Saskatchewan Learning, 2015).

In conclusion, both personal and professional development were shown to have a substantial association between social (.213, .005). According to the findings of the research, in order to grow in your job, you will need to learn new information in addition to more experience. This suggests that the next step in your professional development is dependent on either the job you have now or the one you want to acquire in the future. The advancement of both one's self and one's career go hand in hand.

The findings of this are backed by Schuman and Relihan, among others (2010). The dignity of educators may be preserved by the cultivation of admirable traits such as compassion, respect, and integrity, all of which can be improved through continued professional and personal growth. In this field, the practise of reflecting on one's own work as well as the work of one's peers is highly respected. It places a strong emphasis on the necessity of educators giving careful consideration to their own personal and professional development in order to guarantee that students will always have access to education of a sufficient standard.quality education for the rest of their lives.

Research Problem No. 4

It was revealed in the Table 4 that the professional standards of teachers significantly influence the ICT competencies in terms of Technological (F = 1.527, Probability = 0.027).

It is also revealed that 5.2% of the variation of the professional standards of teachers was accounted by the ICT competencies. This shows that the remaining 94.8% was attributed to other variables not included in the context of the study.

Among the professional standards of teachers and ICT competencies, diversity of learners (t-value = 2.374* p-value = .019) and Personal Growth and Professional Development (t-value = -2.246*, p- value= .026) are found out to be the best predictor of professional standards of teachers.

Table 3 Influence of the level of Professional Standards of Teachers and ICT Competencies in terms of Technological

Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
	B	**SE**	**Beta**		
(Constant)	4.998	0.496		10.079	0.000
Learning Environment	0.063	0.127	0.059	0.494	0.622
Diversity of Learners	0.351	0.148	0.334	2.374*	0.019
Curriculum and Planning	-0.187	0.159	-0.171	-1.171	0.243
Assessment and Reporting	0.318	0.203	0.310	1.564	0.120

R^2 = 0.052; F = 1.527; Prob = 0.027

According to the results, when educators collaborate with their fellow professionals, it gives the impression that they have a deeper understanding of the content they teach. Learners will also get an understanding of the steps involved in contributing to a dynamic working environment by making use of the unique talents and perspectives they possess.

Carlson, L., Portman, T., and Bartlett, J. all provide evidence that supports the inference (2006). Students are provided with a wide variety of learning opportunities via diversity in the classroom, particularly in the area of information and communications technology education. It enhances engagement as well as the integration of topics; both instructors and students are more diligent in their efforts to engage since the new era of technology provides them with the opportunity to make learning vibrant and interesting.

Furthermore, in the framework of Personal Growth and Professional Growth, the implication is made that the use of ICT contributes to ongoing professional development throughout one's lifetime. Learners are able to remember more material thanks to the use of ICT into classrooms, which also leads to increased student engagement with their work. This is due to the fact that technology makes it feasible to instruct the same content using a number of approaches that are more interesting and exciting for the student. According to Gever (2012), technical talents in information and communication technology include knowledge of how to operate and utilise a range of information and communication technology (ICT) instruments, both online and off-line, such as computers and other communication devices and software. The ability to do fundamental computer maintenance and troubleshooting, in addition to other essential computer operations, will be evaluated on the candidates for the teaching positions. This certification covers a wide range of applications, including word processing, spreadsheets, presentation software, and anti-virus software. Utilizing the technologies provided by the internet to locate, access, and acquire information resources is one way to provide assistance to learning settings.

Table 4 Influence of the level of Professional Standards of Teachers and ICT competencies in terms of Didactical

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	SE	Beta		
(Constant)	4.231	0.371		11.417	0.000
Learning Environment	-0.004	0.095	-0.005	-0.043	0.966
Diversity of Learners	0.107	0.110	0.139	0.972	0.333
Curriculum and Planning	-0.063	0.119	-0.079	-0.533	0.595

R^2 = 0.020; F = 0.560; Prob = 0.762

It was discovered in Table 5 that the professional standards of instructors have a substantial impact on the ICT capabilities in terms of their didactical application (F value = 0.560, Probability = 0.762).

In addition to this, it was discovered that the abilities in information and communication technology accounted for 2% of the diversity in the professional standards of teachers. This demonstrates that the remaining 98% of the variance may be attributable to other factors that were not included within the scope of the research.

In addition to this, while taking into account all of the factors that were considered, it was found that none of the variables stood out as the most accurate predictor of the professional standards of instructors and ICT abilities in terms of didactics. This indicates that the didactical approach used by instructors does not have an effect on the professional standards or ICT capabilities of teachers.

This indicated that information and communication technologies mainly serve to enhance instructors as well as students, modified the manner that information is sent to make it student-centered, and caused this shift to occur for the purpose of improving academic success for students.

This assumption is backed by the work of Loreman (2010). He emphasised that educators believe that information and communication technologies (ICTs) can enable them and learners to convert the way that instruction is delivered from teacher-centric to student-centric, and that this transition will lead to improved academic achievement for students, providing and allowing for possibilities for learners. He said that this transition will lead to improved academic achievement for students, providing and allowing for possibilities.

Table 5 Influence of the level of Professional Standards of Teachers and ICT Competencies in terms of Social

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	SE	Beta		
(Constant)	3.730	0.372		10.018	0.000
Learning Environment	-0.019	0.096	-0.024	-0.202	0.840
Diversity of Learners	0.001	0.111	0.001	0.008	0.994
Curriculum and Planning	-0.001	0.120	-0.001	-0.010	0.992

$R^2 = 0.044$; F = 1.297; Prob = 0.261

Table 6 showed that there is a strong relationship between the professional standards of instructors and the ICT abilities in terms of social (F value = 1.297, P value = 0.261).

It was also shown that the abilities in information and communication technology accounted for 4.4% of the diversity in the professional standards of teachers. This demonstrates that the remaining 95.6% of the variance may be attributable to other factors that were not included within the scope of the research.

In addition, while taking into account all of the factors that were considered, it was found that none of the variables was the most accurate predictor of the professional standards of teachers and ICT abilities in terms of social. This indicates that the social lives of teachers do not have an effect on the professional standards or ICT abilities of instructors.

This indicated that information and communication technologies (ICTs) are beneficial to both educators and students, shifting the focus of knowledge transfer from being primarily teacher-centered to student-centered. Students will benefit academically from this move, and learners will have access to additional possibilities as a result.

The research done by Goleman, Benneth, and Barlow lends credence to this notion (2012). He said that educators feel that information and communication technologies (ICTs) have the potential to provide instructors and students greater power, therefore shifting the focus of teaching and learning from being focused on the teacher to being centred on the learner. According to him, this adjustment would assist students in achieving higher academic results and provide them with additional chances.

7. CONCLUSIONS

In like manner, teachers are also highly competent in ICT Competencies in terms of social, didactical, pedagogical, and technological.

Based on the findings of the study, it is concluded that Philippine Professional Standards for Teachers such as diversity of learning, assessment and reporting, community linkages and professional engagement, personal growth and professional development have strong significant relationship on ICT competencies in terms of social.

However, there was no significant influence on the professional standards of teachers and ICT competencies in terms of pedagogical, didactical, and social.

This result was obtained because the teachers are already equipped with the knowledge and skills, they need to remain abreast of students' changing needs. In addition, educators have ICT competencies, yet they still need to know how to utilize and maintain ICT equipment as well as software to have technological ICT competencies; knowledge of how to operate and utilize a range of online and offline information and communication technologies; and abilities to do basic computer maintenance and troubleshooting, as well as other critical computer operations.

8. RECOMMENDATIONS

1. Department of Education should formulate strategic plans or undertake more in-depth research on teachers' professional standards and ICT abilities;
2. Public school administrators should provide trainings and seminars that can develop teachers' ICT competencies in basic computer maintenance and troubleshooting;
3. Teachers should develop their ICT skills through adapting the trends, uses of technology, joining seminars that would help them to equip their selves on teaching to address student needs for the global competition;
4. Conduct of a similar study may also be considered as a guide in the future in obtaining, interpreting, and changing information on several subjects, as well as the problems that teachers have in doing so.

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