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Self-Assessment on Information and Communication Technology Capabilities Integration and Attitudes of Teachers towards ICT Integration

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ABSTRACT: Phubodin Pittayalai School is one of the private schools in the southern province of Thailand. To continue the school's development in order to cope with the demands of the fast-developing technology in the modern educational system, the school administrators conducted a SWOT survey, or Strengths, Weaknesses, Opportunities, and Threats survey. It revealed that the teachers in Phubodin Pittayalai School somewhat have the basic ICT knowledge but hesitant and has lack of confidence in integrating ICT in their classroom pedagogy. In this light, the researcher conducted the study to validate the level of competency and attitudes of teachers towards ICT integration. The result of this research study is hoped to be helpful in the identification of training needs to enhance teachers' ICT competency. Most of the respondents from of Phubodin Pittayalai School in Thailand were from thirty years old and below, females, master's degree holder and attended school-level seminars and trainings. With respect to all aspects toward ICT integration in terms of ICT skills, ICT integration in teaching and attitudes toward ICT integration, the over-all composite mean obtained was 3.06 interpreted as "Strong". It could be deduced from the results that there is no significant relationship on the respondents' self-assessment on ICT integration with respect to age, educational attainment and seminars and trainings attended. However, with respect to gender, it was found out that there is significant relationship on the variables. An action plan for seminars and workshops is prepared to address the problems encountered by the respondents.

KEYWORDS: Information and Communication Technology, ICT, ICT Integration, Teacher's Attitudes

I. INTRODUCTION

In the 21st century, the fast shifting of technology trends has affected all human aspect including the educational system. Most notably, the transformation of learning and technology requires a change from traditional methods, where many learners are confronted by a textbook to a system that allows students to learn through digital devices, such as computers and the Internet (Ajzen, 2018)¹.

ICT becomes a global policy of education and give a massive impact on the changes of an education system in many developed countries, (Akbaba et. al., 2018)². Teachers, as well as students, are welcoming ICT as new ways to promote modern and efficient learning activities to enhance better achievement in education.

The eleventh national economic and social development plan of Thailand (2012–2016) emphasizes the integration of a modern approach to supporting, creating, and enhancing information and communications technology (ICT) education amongst teachers and students (Ministry of Information and Communication Technology, 2016). There is consensus with this approach from the Ministry of Education, including in the ministry's vision for 'Enabling Future Education with ICT' and associated strategies (Ministry of Education, 2011).

All government sectors advocate that ICT education should be driven by professional teachers. Teachers must gain suitable knowledge and abilities to use ICT to effectively teach students. The Teacher Council of Thailand (2015) developed minimum specifications of ICT competency and computer skills for teachers. The Office of the Basic Education Commission has further specified research to enhance ICT competency (Office of the Basic Education

Commission, 2010a). Teachers obviously play a key role in developing ICT skills within students and must be effective in this role (Bingcang, 2019)³. The Office of the Education Council (2011) has assessed education standards since 1999 and has consistently identified problems in education technology development and training.

II. RELATED WORK

Measuring teacher's capabilities and attitudes in the integration of ICT in the teaching process, basic computer application may help us determine the barriers on the mastery of basic computer skills and how ICT integration facilitate teaching and learning in classroom setting.

The study will be conducted to determine the self-assessment of teachers in Phubodin Pittayalai School in Thailand in terms of their ICT skills, ICT integration, and attitudes on ICT-integration. It will show the relationship between personal profile and attitudes toward ICT integration. How their personal profile affects their knowledge, attitudes, and skills in computer.

This study aimed to determine the relationship and outcome of the self-assessment on capabilities integration and attitudes of teachers toward Information and Communication Technology (ICT) integration. Specifically, it sought to answer the following questions:

1. What is the profile of the teachers in terms of:
 - 1.1 Gender;
 - 1.2 Age;
 - 1.3 Educational Attainment; and
 - 1.4 Information and Communication Technology (ICT) seminars and trainings attended?
2. What are the teachers' self-assessment in terms of their:
 - 2.1 ICT capabilities;
 - 2.2 ICT integration; and
 - 2.3 Attitudes towards ICT integration?
3. Is there a significant relationship between the demographic profile of the respondents and their self-assessment toward Information and Communication Technology (ICT) integration?
4. Based on the results of the study, what appropriate seminars and workshops may be proposed or suggested about Information and Communication Technology (ICT)?

III. METHODOLOGY

This study utilized a quantitative-correlational research design. Quantitative research methods focus on measurements that are objective, with statistical analysis to the numerical data collected. Data are gathered through different methods such as polls and questionnaires (Arrozagay et.al, 2019)⁴. Interpreting previous statistical data using different techniques can also be undertaken in quantitative studies. Quantitative research methods are those methods in which numbers are used to explain findings (Aquino, 2017)⁵. This method is best suited for this study to effectively examine the relationship between a dependent variable (assessment and attitudes toward ICT-Integration) and an independent variable (profile, skills and ICT trainings and seminars).

Moreover, the researchers made use of the descriptive method to look into and assess the different factors that influences the respondents' ability and attitude to integrate ICT in teaching in terms of using basic computer application. Estolas (2017)⁶ describe this method as a set of gathered data or information analyzed, summarized, and interpreted certain line thought for the pursuit of a specific purpose of study. It reveals condition or relationships that exist or do not exist, practices that prevail or do not prevail, beliefs or point of views or attitudes that are held or not held on-going process or effects that are being felt or trends that are developing.

Furthermore, the researchers aimed to evaluate and measure the computer skills and attitude of the teachers in terms of ICT integration and attitude in using basic computer application. Furthermore, this method of research used survey questionnaire and rating scale.

The study was conducted at Phubodin Pittayalai School, a private school located at 4/9 Than Pracha Uthit, Road Langsuan Chumphon in Thailand. It was established on May 15, 2010. The school is located in the middle of the LangSuan district in Chumhon province. It is surrounded by some private and public schools.

The teachers at Phubodin Pittayalai School in Thailand were the respondents. In the school, there are fifty teachers and approximately 1,300 students. To achieve a 100% response rate, all of the school's teacher were selected to take part in the survey. Since this research gathered samples from the entire teaching population, total population sampling technique was utilized.

The questionnaire was the main research instrument to be used to collect data on self-assessment and attitudes of teachers toward information and communication technology (ICT) integration in teaching. Questionnaire was appropriate for this study because it was cost-effective to collect data from many respondents at the same time without engaging the researcher in too much movement from one respondent to the other (Akbaba et. al., 2018).

The survey questionnaire used was adapted based on the National ICT Competency Standard for Teachers of the Commission on Information and Communications Technology (Bingcang, 2013). Adaptation was made to the content, format, response scales, or visual presentation of any part of a question, questionnaire, or instrument. The purpose of adaptation is to better fit the needs of a new population, location, language, or mode, or any combination thereof (Chalmers & Price, 2015)⁷; see also Instrument Technical Design and Translation: Shared Language Harmonization. This incorporated forward translation and were critically assessed by a panel of Thai native experts, the school director, and the ICT head among the academic and experienced teachers at Phubodin Pittayalai School. Also, the surveys were pre-tested on 10 assistant teachers to ensure their reliability and validity.

It uses of four-point Likert-scale system in measuring the teacher's level of ICT skill. Teachers will respond using the scale namely (1) very weak; (2) weak; (3) strong; (4) very strong.

In addition, to ensure that all teachers had a complete understanding of the instrument used, the questionnaire was translated from English to Thai, and then back to English.

IV. EXPERIMENTAL RESULTS

As depicted from Table A below, with respect to all aspects toward ICT integration in terms of ICT skills, ICT integration in teaching and attitudes toward ICT integration, the over-all composite mean obtained was 3.06 interpreted as "Strong".

Table A. Composite Table of Teachers' Self-Assessment in Toward ICT Integration

Summary	WM	VI
ICT Capabilities	3.19	S
ICT Integration	2.80	S
Attitudes Toward ICT Integration	2.99	S
Composite Mean	3.06	S

It could be deduced from the results that the teachers of Phubodin Pittayalai School in Thailand are knowledgeable enough in utilizing existing and possibly, emerging technologies, in the teaching-learning process. They function well and ready in opening more educational opportunities for the learners to become functioning members of society. The findings support that of Aquino (2017) stating that the instructional managers or teachers should concentrate in the 21st century skills for an education program to become successful.

Table B below shows that with respect to age, educational attainment and ICT seminars and trainings attended, the null hypothesis was not rejected since the computed p-values exceeded the 0.05 level of significance. Therefore, the null hypothesis was accepted and led to the conclusion that there is no significant relationship between the self-assessment of the respondents on the three above-mentioned demographic profile.

Table B. Relationship Between the Demographic Profile of the Respondents and Their Self- Assessment Toward Information and Communication Technology (ICT) Integration

Profile Variable	Computed Chi Square Value	p-value	Interpretation	Decision
ICT Skills				
Gender	50.000	0.006	Significant	Reject the Hypothesis
Age	95.622	0.182	Not Significant	Do not Reject the Hypothesis
Educational Attainment	30.159	0.356	Not Significant	Do not Reject the Hypothesis
ICT Seminars & Training Attended	35.185	0.165	Not Significant	Do not Reject the Hypothesis
ICT Integration in Teaching				
Gender	45.265	0.036	Significant	Reject the Hypothesis
Age	108.922	0.085	Not Significant	Do not Reject the Hypothesis
Educational Attainment	29.539	0.489	Not Significant	Do not Reject the Hypothesis
ICT Seminars & Training Attended	26.852	0.631	Not Significant	Do not Reject the Hypothesis
Attitudes toward ICT				
Gender	45.265	0.011	Significant	Reject the Hypothesis
Age	67.243	0.802	Not Significant	Do not Reject the Hypothesis
Educational Attainment	29.804	0.276	Not Significant	Do not Reject the Hypothesis
ICT Seminars & Training Attended	15.608	0.945	Not Significant	Do not Reject the Hypothesis
OVER ALL				
Gender	48.657	0.012	Significant	Reject the Hypothesis
Age	98.563	0.805	Not Significant	Do not Reject the Hypothesis
Educational Attainment	29.342	0.834	Not Significant	Do not Reject the Hypothesis
ICT Seminars & Training Attended	16.435	0.858	Not Significant	Do not Reject the Hypothesis

Note: $p\text{-value} \leq 0.05$ – significant, $p\text{-value} > 0.05$ – not significant

On the contrary, the self-assessment of respondents differs significantly with respect to gender since the computed p-value did not exceed the 0.05 level of significance. This rejects the null hypothesis and concludes that there is a significant relationship between the self-assessment of the respondents in the integration of ICT in teaching with respect to gender. This may be due to the fact that the female respondents dominated the survey that greatly affects the result of this study. Azjen (2015) pointed the significance of gender when he stated that female teachers are more compassionate in everything they do compared to their male counterparts.

V. CONCLUSION

Based on the foregoing findings, the following conclusions were drawn:

1. Most of the respondents from of Phubodin Pittayalai School in Thailand were from thirty years old and below, females, master's degree holder and attended school-level seminars and trainings.
2. With respect to all aspects toward ICT integration in terms of ICT skills, ICT integration in teaching and attitudes toward ICT integration, the over-all composite mean obtained was 3.06 interpreted as “Strong”. It could be deduced from the results that the teacher-respondents are knowledgeable enough in utilizing ICT in the teaching-learning process.

3. There is no significant relationship on the respondents' self-assessment on ICT integration with respect to age, educational attainment and seminars and trainings attended. However, with respect to gender, it was found out that there is significant relationship on the variables.

4. An action plan for seminars and workshops is prepared to address the problems encountered by the respondents.

In the light of the conclusions drawn from the study, the following are hereby recommended:

1. The study may be considered as a basis for enhancing and designing learning materials for training development programs and learning sessions suitable for the teachers.
2. The school administrators should support the needs of the teachers of Phubodin Pittayalai School in Thailand by increasing the funds on the implementation various training development programs.
3. The action plan for seminars and workshops recommended by the researcher must be institutionalized.
4. A similar study can be replicated in other parts of the country to verify whether the same problem encountered by the locality of this study is being experienced.

REFERENCES

- [1] Ajzen, C., Attitudes, personality & behavior (2nd Edition). Milton-Keynes, England: Open University Press / McGraw-Hill, 2018
- [2] Akbaba, S., & Kurubacak, G., Teachers' attitudes towards technology. In S. McNeil, J. D. Price, S. Boger-Mehall, B. Robin, and J. Willis (Eds), Proceedings of the Society for Information Technology and Teacher Education, 2018
- [3] Bingcang, J. INTED2015 Proceedings, 2015 - library.iated.org National ICT Competency Standard for Teachers of the Commission on Information and Communications Technology or NICS, 2019
- [4] Aquino, E., The next industry ripe for disruption in the Philippines: Educational Technology. Accessed: July 31, 2018. Retrieved from (<https://www.techinasia.com/philippines-quipper-school-educational-technology>), 2017
- [5] Arrozagay, M., A comparative study of Spanish adult students' attitudes to ICT in classroom, blended and distance language learning modes. Computers & Education, 134(October 2018), 31-40. <https://doi.org/10.1016/j.compedu.2019.01.016>, 2019
- [6] Estolas, B., How internet is opening up educational opportunities for people in emerging economics. Business Day Magazine. (Internet February 23, 2014) Retrieved from (<http://halfanhour.blogspot.com/2014/04/connectivism-as-learning-theory.html>), 2017
- [7] Chalmers, C. & Price, P., Promoting gender equity in the information technology classroom. Australian Educational Computing, 15 (1), 13-16, 2017



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