

**Extent of Utilization of Information and Communication Technology (ICT) by
Selected Secondary School Teachers of City Schools Division of Malolos:
Basis for the Development of Strategic Action Plan**

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Abstract - The study looked into the extent of utilization of Information and Communication Technology in selected secondary schools in the City Schools Division of Malolos, Bulacan during the academic year 2016-2017 as they relate to the different areas of education particularly: (1) teaching, (2) assessment and (3) administrative tasks. The respondents included 259 teachers from nine (9) selected schools from the various districts in the City Schools Division of Malolos. A descriptive research design was adapted and a researcher-made survey questionnaire was distributed to respondents. Findings revealed that teachers *Always* use Information and Communication Technology in most, if not all areas of their professional lives, particularly in the performance of their teaching, assessment and administrative tasks. No statistically significant results were found in the extent to which teacher-respondents utilize ICT in the performance of their teaching, assessment and administrative tasks when grouped according to age, sex, and educational attainment. Conversely, statistically significant difference was found in the execution of assessment tasks when respondents were grouped according to their length of service but results for teaching and administrative tasks proved otherwise. A strategic action plan was developed to address issues that surfaced from the study.

Keywords: information and communication technology, assessment, administrative

1. INTRODUCTION

The 21st century has been the golden age, so to speak of Information and Communication Technology (ICT) in as much as it has become part and parcel of basically all aspects or facets of our everyday lives. Over the past 20 years, the use of ICT has significantly changed nearly all forms of undertakings within industry and government alike, and nearly within all business processes, practices and procedures. Education is a very socially-oriented activity, and quality instruction has conventionally been associated with resilient instructors having quality levels of personal contact with learners. A more student-centered learning setting warrants the use of Information and Communication Technology. With the dynamic entrance of digital media and information technology, the role of ICT in education has grown, developed, and become even more significant in the 21st century (Noor-Ul-Amin, 2009, as cited by Srivastava, 2016).

The schools in the City of Malolos take part in the mission of the Department of Education (DepEd) “to protect and promote the right of every Filipino to quality, fair, culture-based and complete basic education where students learn in a child-friendly, gender-sensitive, safe and motivating environment” where “teachers facilitate learning and constantly nurture every learner, administrators, and staff, as stewards of the institution, ensure an enabling and supportive environment for effective learning to happen and, family, community and other stakeholders are actively engaged and share responsibility for developing life-long learners” (www.deped.gov.ph).

The schools likewise adhere to the vision of the Department of Education of developing Filipinos with an intense sense of nationalism – that is, with willingness to serve both country and fellow countrymen and, possess values and competencies that would enable them to reach their full potentials as individuals who will eventually contribute to nation-building. The DepED, as part of its mandate and as a learner-centered public institution, continuously serves its stakeholders.

Education plays a vital role in developing the nation’s citizenry. It is through education that people acquire crucial knowledge, skills, attitudes as well as moral values. The overall mission of the Department of Education for the 21st century is “*Education for all Filipinos Anytime, Anywhere.*” This mission calls for an ICT-enabled educational system that transforms students into dynamic life-long learners and value-centered, productive and responsive citizens.

Section 2 of the Governance of Basic Education Act of 2001 (RA 9155) emphasizes the significant role of the school as a channel through which students are molded into becoming productive citizens by offering an environment conducive to learning. Thus, is it of highest priority that quality education, with continuous and genuine efforts, be served to its ultimate clientele – the students. Moreover, each public institution should make itself involved in inking a curriculum that will develop students into individuals who are not only knowledgeable on the subject matter being presented, but are likewise responsive and responsible citizens who care for the country and its people. In other words, every learning institution should always target the holistic development of a child.

As an adage goes, “*It takes a village to raise a child.*” This simply means that the holistic development of a child is not the sole responsibility of the government; neither is the provision of quality education its exclusive function (UNICEF, 2009). Different sectors and groups in the community must partake in attaining the goals towards nation-building.

While access to education has significantly improved, the standard of fundamental education stands being in question as learning capability indicators portray a disturbing image of the Philippines' ability to produce a highly-skilled and competent workforce that will make a significant difference in a globally-competitive economy.

The Philippine government has been devoted to reforming the Philippine educational system, in its effort to make every student at par with other students in developed economies. This is because in today's knowledge-based global economy, the ability to utilize and produce information and transform it into knowledge, goods, and services are crucial to growth and development. Thus, educational institutions face the challenge to integrate Information and Communication Technology in the teaching and learning process.

As stated in RA 10533 (Official Gazette, 2013):

“It shall be the policy of the state to promote and support computer literacy starting at the earliest grade level in the public school system of the country. Likewise, the state shall encourage the use of Information Technology (IT) and its various components (Computers, telecommunications, etc.) in order to upgrade and modernize the educational system, enhance the quality education and achieve equity in the acquisition of skills among all students.”

The Department of Education initiated a computer-generated program with the aim of enhancing Filipino students for employment and competitive career by teaching them to master the new forms of technology used in the workplace. Public schools do not want to simply teach students how to use computers, technological devices, and other high-tech gadgets, but they would also like to harness and enhance the power of technology towards developing the entire teaching-learning process.

The Department of Education Information and Communication Technology Strategic Plan (2008) which was developed collaboratively by educational stakeholders across the Philippines, recognize that ICT provides schools and learners with compelling opportunities for learning and collaboration. The Plan provides for a description of knowledge, understanding abilities, volumes and values related to Information and Communication Technology that Filipino learners should possess.

However, integrating ICT into the teaching-learning process is not that intelligible and easy as it seems. With the existing infrastructure in public schools, several factors such as class size, availability of teachers, qualifications of teachers, needed teachers' training, among others, critics are skeptical in the efficacy of these Information and Communication Technology programs in achieving technological advancement in the classroom and solutions to these *low-tech* problems were not fully realized. Therefore, many are in doubt if Philippine schools, especially public schools, are equipped and can afford to use such costly technology.

The City Schools Division of Malolos, comprised of ten districts, reflects the common scenario of Philippine public schools. Although the schools suffer from different problems such as lack of proper facilities and equipment, the school administration believes that Information and Communication Technology is one of the solutions that can bridge the gap towards its end-goal.

The researchers, being the Chief Education Supervisor of the Curriculum Implementation Division Program and graduate school faculty assessed the extent of utilization of Information

and Communication Technology as perceived by the faculty members from different school districts in the City Schools Division of Malolos. The results of this study shed light on the capabilities of teachers and the difficulties they have experienced in utilizing Information and Communication Technology. The results also gave better judgment in strengthening the Information and Communication Technology programs in these schools.

The study was anchored on Lev Vygotsky's (1934, as cited in Leod, 2014) Social Development Theory of Learning which stressed the fundamental role of social interaction in the development of understanding. According to him, infants are equipped with the primary materials and abilities for intellectual accomplishment which, through interaction with his socio-cultural environment in the long-run, are prospered into more advanced and effective intellectual processes and strategies leading to higher mental functions. A child's significant learning occurs through social interaction with a skillful tutor whom the child mimics, and who thereafter, internalizes the knowledge, using it to guide or supervise the child's own performance (Blake and Pope, 2008; Leod, 2014).

The theory is related to the study because social interaction plays a fundamental role in the process of cognitive development. It also discusses the needs of the learners to have "more knowledgeable others" (MKO) (Sundararajan, 2010; Hoyle, 2014). Information and Communication Technology is a game-changer in the educational setting as it provides educational interaction with the learners in a way that supplements the roles of the traditional, MKO like teachers, coaches, trainers, or even a peer to younger persons in particular, and the school system in general.

1.1 Statement of the Problem. The study determined the extent of the utilization of Information and Communication Technology in selected secondary schools of the City Schools of Malolos during the academic year 2016-2017.

Specifically, it sought answers to the following sub-problems:

1. What is the profile of the respondents in terms of:
 - 1.1. sex;
 - 1.2. age;
 - 1.3. educational attainment;
 - 1.4. length of service; and
 - 1.5 subject/s handled?
2. What is the extent of Information and Communication Technology utilization by teachers in the selected secondary schools of the City Schools Division of Malolos on:
 - 2.1. teaching (instructional materials, lesson plan, lesson log);
 - 2.2. assessment; and
 - 2.3. administrative tasks?
3. Are there significant variations on the extent of Information and Communication Technology utilization when teachers are grouped according to variables?
4. What are the problems encountered by the teachers in the utilization of Information and Communication Technology in selected schools of City Schools Division of Malolos?
5. What plan of action may be proposed to improve the utilization of Information and Communication Technology by the selected secondary school teachers in the City Schools Division of Malolos?

1.2 Hypothesis of the Study. This study tested the void hypothesis that “ *there is no remarkable difference between the assessment of the respondents on the extent of Information and Communication Technology utilization and their profiles.*”

2. MATERIALS AND METHOD

2.1 Methods and Techniques Used. The study utilized the descriptive research design which deals with the status or trend of studies, or analysis of current characteristics of a group of objects or a group of people (Hancock, Ockleford, and Windridge, 2009).

Descriptive research includes the presentation of facts or current conditions concerning the nature of persons, several subjects or class of events, classification or measurement. It is fact-finding which consists of adequate interpretations.

Also, the descriptive method of research is a useful tool for scientific investigation which aims to describe the current status of events or phenomena. The result of studies employing the descriptive method of research can be used to the advantage of the experienced researchers in all areas of endeavor.

2.2 Respondents of the Study. The respondents of the survey were randomly selected teachers from nine (9) selected secondary schools in the City Schools Division of Malolos. A total of 259 teacher-respondents from the junior high school department participated in the study. The sample size was computed at 95% confidence level or a margin of error at ± 5 . The number of participants was calculated in proportion to the population of teachers per school and year level.

The schools where the teachers are assigned were selected based on the National Achievement Test Results of SY 2015-2016. Schools which obtained scores below 74 were selected out of the 14 public secondary schools in City Schools Division of Malolos. Their profile was described in terms of age, sex, educational attainment, length of service, and subjects they handled.

2.3 Instrument of the Study. The study made use of a researcher-made questionnaire-checklist to gather the necessary data. The instrument consisted of three (3) main parts. The first part consisted of items relevant to the personal data of the teacher-respondents such as sex, age, educational attainment, the length of service, and subjects handled. The second part comprised of 10-item checklist for each of the teacher-respondents' assessments of the extent of Information and Communication Technology utilization on their teaching, assessment and administrative tasks. The last part dealt with the problems commonly encountered by the teacher-respondents in using Information and Communication Technology in the nine (9) secondary schools.

2.3.1 Construction of the Instrument. The questionnaire was constructed using inputs from the reviews of existing literature and feedbacks gathered from the pilot testing of the instrument and validation by experts.

2.3.2 Validation of the Instrument. The questionnaire has undergone content validity by Education and Information and Communication Technology experts and was pilot-tested before administration to targeted respondents. The experts included an Information and Communication Technology Officer and a Doctor of Information Technology. The researcher made further refinement after the validation and a dry-run of the instrument.

3. RESULTS AND DISCUSSIONS

Based on the analysis and interpretation of data, the findings are at this moment summarized:

3.1 Profile of the Respondents. Of the 259 respondents, 77 or 29.73% are 36 – 40 years of age, with only nine who are 21-25 years old. Majority or 212 representing 81.85% of the total respondents, are female. The bigger chunk teachers, totalling 131 or 50.58% has earned units leading to a master's degree, while the smallest group are those who are doctorate degree holders (3 or 1.17%). One hundred (100) teacher-respondents or 38.61% have been in the profession for 6-10 years, and 103 (39.77%) have been in the service for 11- 15 years.

3.2 Extent of Information and Communication Technology Utilization. The results revealed that teachers in the nine (9) selected secondary schools in the City Schools Division of Malolos of DepEd Malolos *Often* utilized Information and Communication Technology in their *Teaching Tasks* as evinced by the resulting mean score of 4.11.

Regarding *Assessment tasks*, the teacher-respondents claimed to have *Always* utilized Information and Communication Technology demonstrated by the computed area mean of 4.43. The extent of Information and Communication Technology utilization of teachers in District 1, 2, 3 with regards to their *Administrative Tasks*, was rated as *Often*, with 3.92 as area mean.

This implies that the teachers widely use Information and Communication Technology in most, if not all areas of their professional lives, particularly in the pursuance of their teaching, assessment and administrative tasks. Briefly, the teachers are also into the use of Information and Communication Technology for various reasons, most of which is to motivate their students, keep data more secure and easily retrieved. Also, the teachers are not left behind as far as technology or Information and Communication Technology is concerned. They are also at par with the changing times and their social environment.

3.3 Significant Difference in the Perception of the Respondents on the Extent of ICT utilization on the cited aspects regarding their profile. No significant difference was found in the extent of Information and Communication Technology utilization of teachers in nine selected secondary schools in the Division of City Schools of Malolos in the areas of *teaching, assessment and administrative tasks* when they were grouped according to age, sex, and educational attainment.

When respondents were grouped according to the length of service, the teachers' assessment reached a significant level in the area of *evaluation/assessment*, but no significant difference in the areas of *teaching* and *administrative tasks*.

3.4 Problems encountered by the teachers in the utilization of Information and Communication Technology in the selected secondary schools. As per the results of the study, the common problem faced by the teachers-respondents was the *limited time in accessing the necessary equipment and tools* in delivering Information and Communication Technology-integrated instruction with a computed mean of 4.49 followed by *unavailability of internet connection* and *shortage of computer units and other media (e.g. printer, scanner, projectors, etc.)* as well as *lack of technical*

assistance for operating, maintaining and troubleshooting ICT tools as reflected by the mean results of 3.84, 3.78, and 3.41 respectively.

4. Conclusions

Based on the findings, the following conclusions were gathered: (1) Most of the respondents are aged 36-40 years, female, have earned masterate degree and have spent an average of 6-10 years in service. (2) The extent of utilization of Information and Communication Technology by the teachers in the areas of teaching, assessment and administrative tasks are within *Often* to *Always* (3) There is no statistically significant difference in the extent to which teacher-respondents utilize ICT in the performance of their teaching, assessment and administrative tasks when grouped according to age, sex, and educational attainment. Conversely, statistically significant difference was found in the execution of *assesemnt tasks* when respondents were grouped according to their length of service but results for *teaching and administrative tasks* proved otherwise. (4) The main problems faced in the utilization of ICT in selected public schools in the City Schools Division of Malolos were: *limited time in accessing the necessary equipment and tools unavailability of internet connection shortage of computer units and other media (e.g. printer, scanner, projectors, etc.)*.

5. Recommendations

The recommendations are primarily based on the action plan presented. Additional recommendations are hereby presented: (1) Since limitations in the implementation of ICT are valid and real, they must be addressed by the appropriate agencies of the government so that school children will have the full benefits of Information and Communication Technology-inspired classroom and teaching-learning environment. (2) Improvements related to the extent and issues of Information and Communication Technology integration to education can be suggested in different areas which include student, staff, curriculum and physical development. Actions range from the provision of financial support, technical assistance, and curricular changes. (3) Provide more training of teachers in utilizing Information and Communication Technology in teaching. (4) Improve transparency and efficiency relating to financial matters in the procurement, use, and maintenance of Information and Communication Technology infrastructures in schools. (5) Procure needed computer units and other media such as printers, scanners, and projectors with the help of stakeholders like alumni, organizations, and philanthropists. (6) Layout plans for the infrastructure to provide wider internet access in schools for educational purposes with the help of national agencies like the Department of Information and Communication Technology. And (7) Provide technical assistance to teachers in the operation, maintenance, and troubleshooting of Information and Communication Technology equipment and tools.

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