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The state of ICT integration in the school learning system in junior high schools, General Santos – Philippines

Irene Bandico-Brasileño
irenebrasileno@gmail.com
https://orcid.org/0000-0003-0716-5572
Mindanao State University, General Santos City, Philippines

Wilfred D. Bidad- PhD
wbidad@gmail.com
Mindanao State University, General Santos City
https://orcid.org/0000-0002-1405-3889

ABSTRACT

The study determined the state of ICT integration and the level of its implementation in the school learning system of the Department of Education (DepEd) in Junior High Schools in The Division of General Santos City during the school year 2019-2020. It utilized convergent parallel mixed method. Findings show ICT teachers taking big roles in the implementation of the program where learners were encouraged to participate in class. They maximize the teaching-learning process despite a gap on the facility maintenance and upgrading software and internet connection as hindering factors in delivering better educational services. While there were computers provided, not all learners were able to use or access them. While ICT teachers were guided by the curriculum guide with the competencies required as their legal framework, they have not established standardized modules. They only relied on the available resources in the internet. A concrete systematic approach in terms of maximizing resources, training and professional development and research was not applied. While the administration was supportive, budget allocation for the program cannot totally suffice the needs in the teaching-learning process and in the school learning system as a whole. Stakeholders' involvement in ICT integration was evident, but there is less impact to the program as they were tapped only if needed. An organized and sustained support specifically on monitoring and evaluation of the ICT program is needed. Generally, the absence of sufficient budget and clearly identified ICT infrastructure are the major flaws of the system. The system is run through the initiatives and ingenuity of the teachers, rather than a clearly defined and implemented system. While there are positive feelings regarding the contribution of ICT to the teaching-learning environment, many teachers expressed the need for a more comprehensive intervention on ICT development.

Keywords: *ICT integration; Implementation; school learning system, ICT Teachers and Junior High School learners and Stakeholders*

1 INTRODUCTION

Information and Communication Technology (ICT) integration is a global trend that starts early in high school. The United State and Great Britain, the most educated countries, have started the program as early as primary years complete with teachers training, technology support, and network system.

However, in the Philippines, integration is sparsely done with the focus on providing hardware without appropriate training of service providers. This led to the eventual failure of the many intervention packages under DO No. 78, s. 2010.

While it has the support from the government agencies and private sectors, it was school-based due to lack of funds to sustain the program. The researcher noticed that the program on ICT integration was not sustained. There was less support from the teacher education institutions since not all teachers were using ICT or have strong backgrounds in computer.

According to Courts and Tucker (2012), integration of technology into the learning process brings new opportunities nowadays. It is essentially important that learners learn to use computers to improve their work and prepare for careers in a world where computers have become as common as the pencil and paper. With this, the way pupils are taught must also be improved (Wright, 2015).

Moreover, Setiawan & Andry (2018) stressed that an efficient ICT resource allocation can help the organization achieve its goals and can carry out performance measurements to get an overview and assess how far the organizations has fulfilled their goals.

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As an urban division with internet connectivity, the Division of General Santos City was capable of implementing the ICT integration in their school learning system, hence, was chosen as the locale of the study for one school year. Unfortunately, there were schools awarded with the DepEd Computerization Program (DCP) Packages which do not implement the program.

It was in this light that the researcher assessed the state of ICT integration in its school learning system, the level of its implementation, and how it was managed, utilized, maintained, and sustained by the Department of Education's ICT integration program.

Objectives of the Study

The study determined the state of ICT integration and the level of its implementation in the school learning system of the Department of Education (DepEd) in Junior High Schools in The Division of General Santos City during the school year 2019-2020.

Specifically, it sought answers to the following research questions:

1. What was the competence status of the ICT Teachers in Junior High Schools in The Division of General Santos City in terms of the following:
   1.1. baccalaureate course;
   1.2. specialization/major;
   1.3. ICT related trainings;
   1.4. number of years in teaching ICT; and
   1.5. highest educational attainment?
2. What was the state of ICT integration in the school learning system in Junior High Schools in The Division of General Santos City in terms of the following:
   2.1 meeting learners' needs;
   2.2 covering the school learning system end-to-end;
   2.3 applying a single integrated approach;
   2.4 enabling a holistic approach; and
   2.5 separating governance from management?
3. What were the productivity software used by the ICT Teachers in teaching computer subjects?
4. What was the level of implementation of ICT integration in the school learning system in Junior High Schools in The Division of General Santos City?
5. In what extent did the state of ICT integration affect its implementation in the school learning system in The Division of General Santos City?
6. What was the extent of stakeholders' support in ICT integration in the school learning system in The Division of General Santos City?
7. What were the sentiments of stakeholders, learners' and ICT teachers on the state of ICT implementation?

2 THEORITICAL FOUNDATION

The study was anchored on the theory of Setiawan & Andry (2018) that efficient Information and Communication Technology (ICT) resource allocation can help the organization to achieve its goals and the organization can carry out performance measurements to get an overview and assess how far the organizations have fulfilled their goals.

Furthermore, Courts and Tucker (2012) disclosed that the integration of technology into the learning process brings new opportunities nowadays. Computers indeed have some attributes that, when used correctly, can facilitate student learning. It offers the ability to provide instruction at any phase, in some places, and at any pace, thus generating an extremely flexible learning environment whether through providing more interactions with the content or more interactions with other people. Computers can support actual learning.

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3 METHODOLOGICAL PROCEDURES

This chapter presents the research design, locale, respondents/ participants/ informants, sampling procedure, instrument, data gathering procedure, data analysis, and statistical tools employed in the conduct of the study.

3.1 Research Design

The study used a convergent parallel mixed method, a design where the researcher converges and merges quantitative and qualitative data to provide a comprehensive analysis of the research problem. In this method, the researcher collected both forms of data at roughly the same and then integrates the information into interpretation of the overall results of the study (Creswell, 2014).

The survey answered the first, second, third, and fourth problems of the study. It determined the competence of ICT Teachers in Junior High Schools in The Division of General Santos City; the state of ICT integration in the school learning system in terms of meeting the learners' needs, covering the organization end-to-end, applying a single integrated approach, enabling a holistic approach, and separating governance from the management; and the level of implementation of ICT integration in the school learning system. Quantitative research highlights data collection and analysis in the form of numbers (Clark & Creswell, 2010). It targeted higher precision, reliability, and it is replicable. However, one of its weaknesses is that it does not reflect human experience, as people are different in constructing their meanings and describing their experiences (Clark & Creswell, 2010).

Meanwhile, the In-depth Interview (IDI) answered the fourth, fifth, sixth, and seventh questions. It determined the extent of the state of ICT integration as it affects the ICT implementation in the school learning system and the stakeholders' support in strengthening the ICT integration. Qualitative data showed the features, attributes, and characteristics of phenomena that can be interpreted thematically. It can "paint a picture" of a phenomenon that might be hidden with a more dispassionate quantitative review. It is a systematic subjective approach used to describe life experiences and give them meaning. This aimed to gain insight; explore the depth, richness, and complexity inherent in the phenomenon.

3.2 Respondents and Sampling

The respondents of this study were the ICT Teachers and learners in Junior High School which had received the complete DCP packages in the Division of General Santos City during the school year 2019-2020.

Purposive sampling was utilized in determining teachers teaching ICT from twenty-five (25) registered in the Basic Education Information System (BEIS) Junior High Schools in the Division of General Santos City as participants-key informants who answered both survey and In-Depth Interviews (IDI) questionnaires.

However, in determining the number of respondents for the learners in the Division of General Santos City considering its large population of 45,758 during the school year 2019-2020, the researcher used https://www.surveysystem.com/sscalc.html to achieve the 1,200 respondents. To get the number of respondents per school, the researcher used proportionate sampling.

3.3 Research Instrument

The researcher used adapted research questionnaires from COBIT 5 principle by Setiawan & Andry (2018). Some items were modified based on its appropriateness to the study.

In this study, the research instrument was composed of four parts. The first part focused on the competence status of the participants which included their baccalaureate course, specialization/major, ICT related training, and highest educational attainment. The second part focused on the state of ICT integration in the school learning system in terms of meeting the learners' needs, covering the learning system end-to-end, applying a single integrated approach,

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enabling a holistic approach, and separating governance from management. It used both quantitative and qualitative research methods to answer this problem. The third part of the instrument focused on the productivity software used in teaching computer subjects that were answered by the ICT Teachers. The fourth part of the instrument was answered by the learners on the level of implementation of ICT integration in the school learning system in Junior High Schools in the Division of General Santos City. A qualitative research method to answer this problem was used.

An In-depth-interview (IDI) was conducted by the researcher to seven (7), from twenty-five (25) ICT Teachers of Junior High Schools in this Division to validate data gathered. A focus group discussion (FGD) per group was also done with respondents to determine stakeholders' support in strengthening ICT integration in the school learning system.

3.4 Data Gathering Procedures

The researcher secured a letter from the dean of the graduate studies asking permission to conduct the study. Upon approval, the researcher asked formal permission from the Office of the Regional Director, Office of the City Schools Division Superintendent, and to the School Heads or Principals respectively to conduct the study in the Division of General Santos City, specifically in Junior High Schools in this Division where both respondent-ICT Teachers and Junior High School learners were taken. The respondents were also given a copy of the approved letter. Further, the researcher also asked the permission of the respondents on their voluntary participation in the study. An Informed Consent Form (ICF) was explained to the respondents and had it signed by their parents specifically those respondents below 18 years old. To ensure the adherence to the ethical principles in conducting the research, the manuscript of the study undergone an Ethics Review.

3.5 Data Analysis

For analysis and interpretation of the data, the following tools were used. To determine the competence status of the ICT Teachers, productivity used, the state of ICT integration in the school learning system in terms of meeting learners' needs, covering the school learning system end-to-end, applying a single integrated framework, enabling a holistic approach, and separating governance from management and the level of ICT implementation, the frequency count and mean were employed. Further, Research Qualitative Data Analysis (RQDA) was utilized to determine the ICT Teachers' responses the state of ICT integration in the school learning system in terms of meeting the stakeholders' needs, covering the enterprise end-to-end, applying a single integrated approach, enabling a holistic approach, and separating governance from management, likewise in looking into the ICT Teachers' responses on what extent do the ICT integration affect the implementation in the school learning system.

4 RESULTS AND DISCUSSION

The analysis of the results of the study was based on the specific problems of this study in consideration with the responses of teachers, and the researcher's observations during school visits.

Teachers' Competence

Table 3 shows the competence status of ICT teachers. About 40% have degrees in BS education; 32% in Computer Science; 16% Information Technology, and 12% AB Economics, Pharmacy, and Theology courses. Looking at the table, it shows that 48% have degrees aligned with information technology and computer science as necessary requisite being an ICT teacher/coordinator. To fill this gap, non-ICT trained teachers would be given a module-package to assist them. Ideally, this module would be reinforced with yearly training but happened as a school-based activity only through Learning Action Cell (LAC) sessions.

About 52% of the ICT coordinators majored in English, Math, Economics, General Science, Religious Education, and Social Science while 40% have no course specialization. Half of the participants were non - ICT related graduates. A dismal 8% majored in computer programming. Moreover, they were young with 1-5 years of teaching experience (64%). They were at their most ideal age eager at taking a Master's degree (48%) and Ph.D. (4%) courses.

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Table 3. ICT Teachers' Competence Status *(n=25)*

	Frequency	Percentage
Course:		
BS Education	10	40%
BS in Computer Science	8	32%
BS in Information Technology	4	16%
AB in Economics	1	4%
BS in Pharmacy	1	4%
Bachelor in Arts in Theology	1	4%
Total	25	100%
Specialization:		
None	10	40%
English	4	16%
Math	4	16%
Programming	2	8%
Economics	1	4%
General Science	1	4%
Religious Education	1	4%
Social Science	1	4%
Values Education	1	4%
Total	25	100%
Number of Years in Teaching:		
1 – 5 years	16	64 %
6 – 10 years	7	28 %
11 - 15 years	1	4 %
16 – 20 years	1	4 %
Total	25	100%
Educational Attainment:		
Diploma	12	48%
Masters	12	48 %
PhD	1	4 %
Total	25	100%
Training Attended:		
DCP Installation, PenPen, Robotics, CSS NC2	17	68%
DCP Installation, PenPen, Robotics, NC2	4	16%
DCP Installation, PenPen, Robotics, CSS NC2, PC Troubleshooting	1	4%
DCP Installation, PenPen, Robotics, CSS NC2, TM1	1	4%
Robotics	1	4%
Robotics, CSS NC2	1	4%
Total	25	100%

While, 68% had undergone training on DCP installation, PenPen, Robotics, Computer Systems Servicing (CSS) NC2. These training were for subjects of higher skills for Grades 9 to 10. Penpen (Pagawa ng grado ng walang Pen) is an ICT based project created by the ICT team in General Santos City for teachers in computing grades.

Table 4 presents the ICT teachers' perception of ICT Integration in terms of meeting learners' needs. The teachers' preparedness indicates the readiness of the ICT teachers in performing ICT integration as table 4 shows that teachers (36%) agreed that they were aware of their roles as trained ICT teachers. Availability of the equipment accommodated the needs of the learners. The teachers (48%) believed that they had been given necessary support to cater to the learners' needs, though other schools with computer laboratories cannot accommodate all learners

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in their computer room due to lack of computers. ICT teachers did not have difficulty in encouraging learners to participate in class. Based on Table 4, 44% strongly agree that they encouraged learners to perform in class. This result aligns with the result of the IDI with the teachers where ICT teachers assist/ guide learners in doing internet-based projects. As the teachers determined to give what is for the learners to learn especially in ICT integration, maximum learning was instilled. It was with this that 48% of ICT teachers agreed at maximizing teaching ICT to learners. However, some find it hard to deliver maximum learning due to a lack of computers and weak internet connections. Learners' benefit indicates advantages received from the ICT integration in all aspect. Information and Communication Technology (ICT) teachers (44%) agreed on providing the necessary learners benefit from ICT integration. They need to utilize the learning technologies, ensure that learners were updated on the use of technology and online resources like Technology-Enhanced Learning Approaches (TELA) in their ICT classes.

Table 4. ICT Teachers Perception on the State of ICT Integration in Terms of Meeting Learners' Needs *(n=25)*

Indicator	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree	Mean	SD	Description
	1	2	3	4	5	6	7			
Perform well as trained ICT Teacher	0.0	0.0	0.0	4.0	32.0	28.0	36.0	5.92	1.040	Agree
Accommodate all learners	0.0	0.0	0.0	0.0	24.0	48.0	28.0	5.92	0.862	Agree
Encourage learners to participate in the class	0.0	0.0	0.0	0.0	16.0	40.0	44.0	5.80	0.764	Agree
Maximize ICT teaching to learners	0.0	0.0	0.0	0.0	20.0	48.0	32.0	5.80	0.913	Agree
Provided the necessary learners' benefit from ICT Integration	0.0	0.0	0.0	0.0	20.0	44.0	36.0	5.72	0.891	Agree
Mean	0.0	0.0	0.0	0.8	22.4	41.6	35.2	5.83	0.89	Agree

The completeness of the school learning system that may be affected or influenced by the ICT integration program is shown in Table 5. It shows that ICT teachers both agree (44%) and strongly agree (44%) at instilling values in ICT usage. Along with the maintenance and updates, all computers were installed in a network environment. This will control learners' activities while computing. About 56% of the ICT teachers agree they were employing efficient assessment mechanism (Table 5). The teachers (44%) strictly implement policies, rules, and guidelines for the computer and other facilities. They ensure that computers are virus free and can be used anytime since these served as their tool for making reports and lessons. The units were expected to be functional all the time. About 36% of teachers rated that they agree on the management efficiency in ICT integration. They noted the need for improving the instruction and enhancement of learning by exposing the learners to actual or hands-on activities. ICT teachers needed to follow the Standard Operating Procedure (SOP) and the curriculum issued by the department of education. Applications and software need to be updated. ICT teachers (36%) knew the necessary requisites for maintaining and upgrading software. Yet, since the software installed in computers were licensed, teachers see to it that the computers were at their most usable status.

Table 5. ICT Teachers Perception on the State of ICT Integration in Terms of Covering the School Learning System End-to-end *(n=25)*

Indicator	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree	Mean	SD	Description
	1	2	3	4	5	6	7			
Instill values in ICT usage	0.0	0.0	0.0	0.0	12.0	44.0	44.0	6.32	0.690	Agree
Employ efficient assessment mechanism	0.0	0.0	0.0	0.0	24.0	56.0	20.0	5.96	0.676	Agree

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Maintain effective maintenance of the computer system	0.0	0.0	0.0	0.0	32.0	44.0	24.0	5.92	0.759	Agree
Efficiently manage the IT integration process	0.0	0.0	0.0	4.0	32.0	36.0	28.0	5.88	0.881	Agree
Maintain and upgrade computer software	0.0	0.0	4.0	12.0	32.0	36.0	16.0	5.48	1.050	Agree
Mean	0.0	0.0	2.4	1.6	29.6	44.0	22.4	5.91	0.81	Agree

Applying a Single Integrated Framework

This factor indicates the efficiency of service provided in ICT integration using an internet connection. Most schools subscribe to PLDT. As shown also in the Table, teachers (36%) were contented with the quality of services rendered. Table 6 also shows the teachers' perception of the state of integration of ICT. It could be noted that in all aspects, the mean ratings show teachers agree in productivity software, ICT Integration, materials for inter-disciplinary integration, alternatives for ICT integration, and quality of items/materials for ICT integration. Learning Action Cell (LAC) sessions gave training for non-ICT teachers learning basic applications.

About 40% of the ICT teachers claimed they agree in adopting ICT standards. They believed that in acquiring 21st-century skill as a teacher, they have embraced the idea that ICT is already part of the teaching-learning process. Some teachers enrolled in short courses to gain National Certification (NC). About 52% of the teachers' utilized materials for inter-disciplinary integration as ICT tools were introduced in all subjects as software consistent with curricula objectives become available. Teachers, learners, and the administration used computers in the school learning process. The ICT teachers followed the curriculum guide provided by the Department of Education. Competencies were achieved through e-learning activities while other resources were taken online. The quality of materials for ICT integration was maintained. The teachers utilize materials for the teaching-learning process. They observe the data privacy act in teaching IT. Since the software installed was licensed and under warranty, upgrading was done after the warranty lapse.

Further, they were confident on the quality of the licensed software packages provided by the DepEd. The time allotment is enough. The use of the package was integrated into other subjects. Lessons were scheduled per grade level.

Table 6. ICT Teachers Perception on the State of ICT Integration in Terms of Applying a Single Integrated Framework *(n=25)*

Indicator	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree	Mean	SD	Description
	1	2	3	4	5	6	7			
Consider many productivity software	0.0	0.0	4.0	0.0	32.0	28.0	36.0	5.92	1.040	Agree
Adopt ICT standards in ICT integration	0.0	0.0	0.0	4.0	28.0	40.0	28.0	5.92	0.862	Agree
Utilize materials for inter-disciplinary integration	0.0	0.0	0.0	4.0	28.0	52.0	16.0	5.80	0.764	Agree
Consider other alternatives for ICT integration	0.0	0.0	4.0	0.0	28.0	52.0	16.0	5.80	0.913	Agree
Consider the quality of items/materials for ICT integration	0.0	0.0	4.0	0.0	32.0	48.0	16.0	5.72	0.891	Agree
Mean	0.0	0.0	2.4	1.6	29.6	44.0	22.4	5.83	0.89	Agree

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Enabling a Holistic Approach

Table 7 shows that 40% of the teachers agree at following the mandated curriculum, updating the programs, and getting online resources as support. School-based capacity building training is essential. ICT concepts were introduced to both teachers and the learners. As shown in Table 7, teachers somewhat agree on the conduct of school-based capacity building training. Teachers were knowledgeable about the essential services/ programs to be delivered. ICT teachers can do the task very well (32%) or agree at doing it. This shows that schools ensured that they have a functional computer laboratory with well-maintained computers for they believed that learners were catered when easily access computer facilities.

Meanwhile, 44% strongly agree with the need for strong linkage and partnership in bridging the gaps. Sustainability is essential that schools apportioned from Maintenance and Other Operating Expenses (MOOE) funds for the supplies and materials needed. There were no problems with the school supplies and resources since all were provided. But these are just for basic printing jobs. Responses for research, culture ranged from somewhat agree (32%), neither agree nor disagree (28%), agree (20%), strongly disagree (8%), somewhat disagree (8%), and strongly agree (4%) as shown in table 7. In identifying the training needs of the teachers in ICT, the school utilized the TNA results and RPMS assessment and or online assessment. But in general, there was no specific tool used to assess the level of ICT integration.

Table 7. ICT Teachers Perception on the State of ICT Integration in Terms of Enabling a Holistic Approach *(n=25)*

Indicator	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree	Mean	SD	Description
	1	2	3	4	5	6	7			
Adopt a system to maximize resources	0.0	0.0	0.0	4.0	20.0	40.0	36.0	6.08	0.862	**Agree**
Conduct school-based capacity building training	4.0	0.0	8.0	28.0	24.0	28.0	8.0	4.84	1.370	**Somewhat Agree**
Deliver good services/programs	0.0	0.0	4.0	12.0	32.0	32.0	20.0	5.52	1.080	**Agree**
Believe in strong linkage and partnership	0.0	0.0	0.0	12.0	20.0	24.0	44.0	6.00	1.080	**Agree**
Conduct researches	8.0	0.0	8.0	28.0	32.0	20.0	4.0	4.52	1.450	**Somewhat Agree**
Mean	2.4	0.0	4.0	16.8	25.6	28.8	22.4	5.39	1.17	**Agree**

Separating Governance from Management

About 40% of the ICT teachers agree at organizing values to meet ICT integration needs, schools conducted training to enhance ICT skills. Learning technologies like Technology Enhancement Learning Approach (TELA) and other interactive programs, had also been (40%) maximized to influence ICT integration in schools. This further shows that in adopting these learning technologies in the teaching-learning process, the ICT teachers were able to maximize the ICT utilization which gave more impact to the school learning system. Teachers' initiative and new ideas were rated somewhat agree (36%) and agree (36%). The ICT teachers' mentor non-ICT teachers who were willing to learn. The ICT teachers agreed at realizing ICT integration goals (48%) in the school system. School heads were supportive, giving considerations on schedules, making two continuous hours per class for three days a week to maximize learning and time for maintenance work. ICT utilization were maximized not only for learners but also for teachers in computing their grades and in making their reports.

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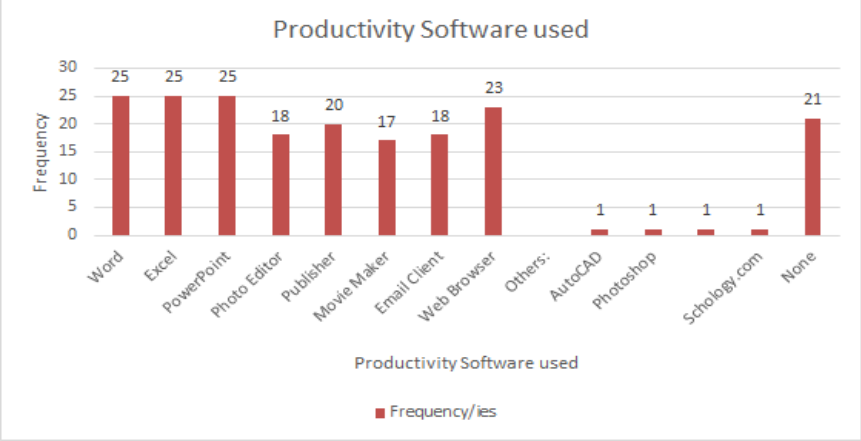
Table 8. ICT Teachers Perception on the State of ICT Integration in Terms of Separating Governance from Management *(n=25)*

Indicator	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree	Mean	SD	Description
	1	2	3	4	5	6	7			
Organize values to meet ICT integration needs	0.0	0.0	0.0	4.0	36.0	40.0	20.0	5.76	0.831	Agree
Maximize ICT impact on the organization	4.0	0.0	0.0	4.0	24.0	40.0	28.0	5.76	1.300	Agree
Develop teacher's new ideas	0.0	0.0	0.0	4.0	36.0	36.0	24.0	5.80	0.866	Agree
Realize ICT integration goals	0.0	0.0	0.0	4.0	20.0	48.0	28.0	6.00	0.816	Agree
Solve problems in school	0.0	0.0	0.0	12.0	44.0	28.0	16.0	5.48	0.918	Agree
Mean	0.8	0.0	0.0	5.6	32.0	38.4	23.2	5.76	0.95	Agree

Productivity Software Used

Figure 5 discloses the productivity software used by the ICT Teachers in teaching computer subjects. This shows that 100% of the ICT Teachers use Word, Excel, PowerPoint. This result suggests the commonly used software for data or documents like lesson plans, reports, communication, and researches; excel for the grade making; and PowerPoint for their lesson presentations.

Figure 5. Productivity Software Used



Learners' Perception of ICT Integration

Figure 6 shows the Learners' Perception on ICT Implementation. Learners (79%) perform hands-on activity. The learners utilize the computer laboratory (77.1%) in doing the activities given by the teachers. They design their projects (75.5%) aside from the knowledge on the use word and excel applications (74.8). They were able also to print their output (63.5%). These shows further the positive performances of the learners. The figure also shows that despite some gaps mentioned, learners truly benefited from the ICT integration in school learning system. The use of computer in all classes (40.3%) was one of the challenges encountered by schools since not all can be accommodated by the number of units available. Only those learners with computer classes were catered.

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Figure 6. Learners' Perception on the Level of ICT Implementation

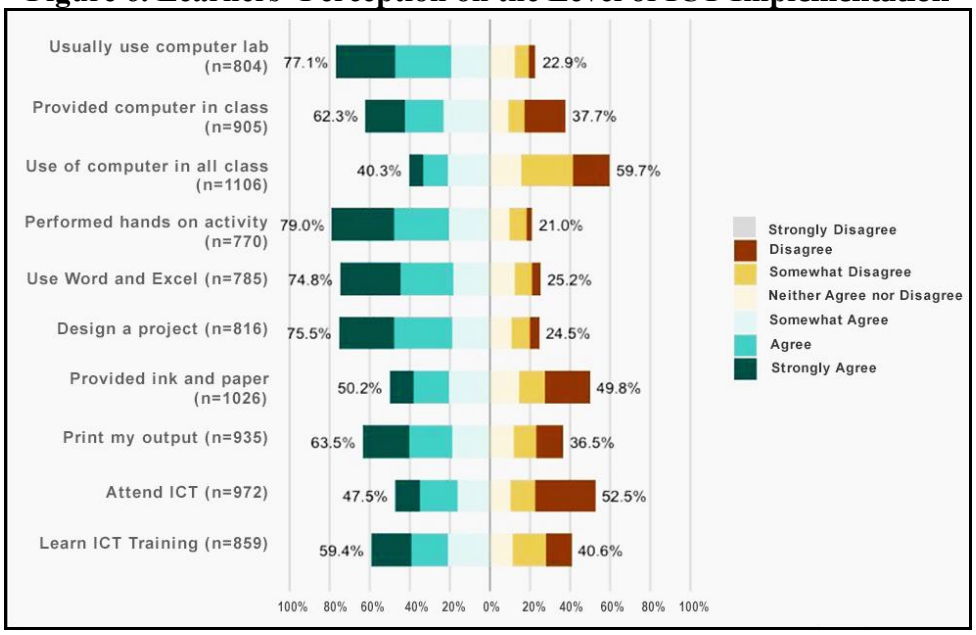
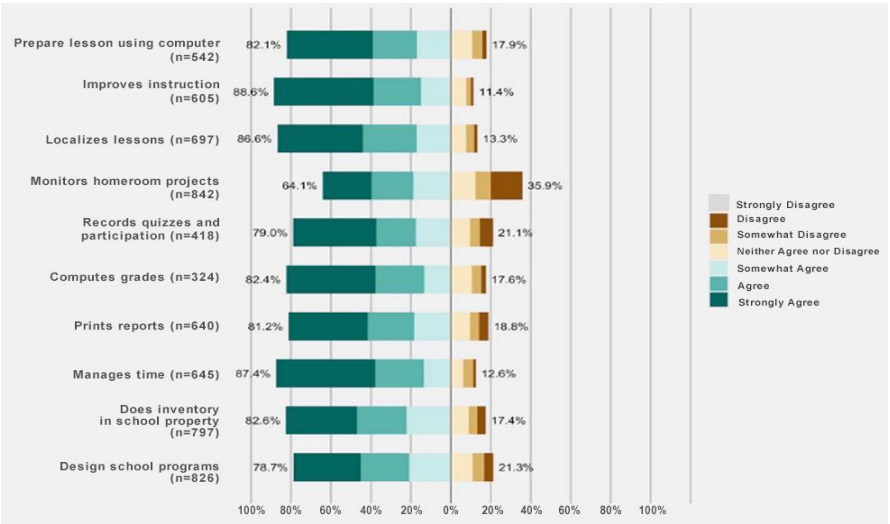


Figure 7 reveals the learners' perception on the teachers' performance on ICT implementation. ICT teachers improve their instruction (88.6%), manage their time (87.42%), localize lessons (86.6%), compute grades (82.4%), and prepare their lessons using computer (82.1%) respectively. The teachers utilized ICT on curriculum and instruction. The indicators mentioned were focused on basic task of the teacher, technical aside, rooted on lesson integration. It can be analyzed from this result that the ICT teacher knew very well how to organize his / her task as a teacher. Integrating ICT in the school learning system with laboratory packages to secondary schools aimed at raising the ICT literacy of learners, teachers and school heads (DedEd Order No. 78, s. 2010). The survey results show that this mandate has been achieved.

Figure 7. Learners' Perception on Teachers' Level of ICT Implementation



With the utilization of ICT, teachers submit their reports faster through online submission. They use it in computing the grades, making inventory and communication. As shown on Figure 1, 100% of the ICT teachers use basic productivity software all the time. This suggests that ICT integration is an integral part of the school learning system as it is being utilized in all aspects. The schools' support to the ICT program had been strengthened with provision or allocation from MOOE funds. But it is not enough to sustain all needs.

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Stakeholders' Support to ICT Integration Implementation in the School Learning System

Most support the program and promote ICT integration. The use of computer facilities during vacant periods and maximized all learning technologies for the learners to be exposed. Keeping the computer laboratory open during vacant periods was an initiative of the teachers-in-charge of the laboratory since not all learners were accommodated at all times. Computers were available but not all schools had a one-is-to-one ratio. They also maximize the use of supplies and materials allotted from MOOE funds to the needs of learners and teachers. ICT teachers see to it that the facilities were frequently checked. They do simple troubleshooting. The security and safety of the equipment is always their top priority.

Generally, the learners' support in promoting ICT integration. Their inputs on ICT were also shared with their colleagues, although they do not have the direct support for computer laboratories specifically financial support.

School Heads' Support to ICT Integration Implementation

ICT integration was supported by the school head by letting teachers attend trainings and seminars to enhance their ICT skills. The Learning Action Cell (LAC) sessions were utilized to give and share inputs on ICT integration, and to learn its operation. By empowering the use of ICT in school, school heads gave priority on this since all teachers and learners and even the administration use computers. Schedules on the access to computer facilities were arranged. The school heads ensured that learners were updated with technology. In promoting ICT, other/all teachers were encouraged to integrate them in their respective subject areas. School heads support to the program was evident. The utilization of learning technology is encouraged.

PTAs' Support to ICT Integration Implementation

The Parent Teachers Association (PTA) support was delimited to specific problems encountered as requested by the school head. Since their children benefited the use of computer facilities, it was their concern to have a well-lighted and air-conditioned room. Parents were assured of the maintenance of the facilities for they knew that the school conducts inventory, shoulders the repair and maintenance through MOOE funds in line with ICT allocation. Although PTAs support security and safety of computers was indirect, they shared with the salary of the security guards or even volunteered to do so. The school also provided grills for the windows and doors of the computer laboratories. PTAs support to learners and teachers was delimited only to contests and on other school activities.

Stakeholders' Sentiments on ICT Integration to School Learning System

Figure 8 reveals that the stakeholders had both negative and positive sentiments on the implementation of ICT integration. Signal words that comprise negative sentiments are leave, feeling, unpredictable, plight, embarrassment, difficulties, delay and annoying. Since the computer laboratory was open for everyone especially on vacant time, any learner or teacher uses computer. ICT teachers felt a negative emotion when the users just leave the computer laboratory right away without checking whether the computers were turned off.

While the signal words for positive sentiments are technology, learning, happy, and teacher. Generally, teachers were glad having technology for they were able to have their lessons easily presented. The learners were active in terms of class discussions. Online activities were enjoyed by the learners. As the teachers fulfilled their roles of providing ICT knowledge to the learners, they felt a sense of achievement when the learners performed and have their outputs done. They were supported by their school heads in any means.

Figure 8. Stakeholders' Sentiments

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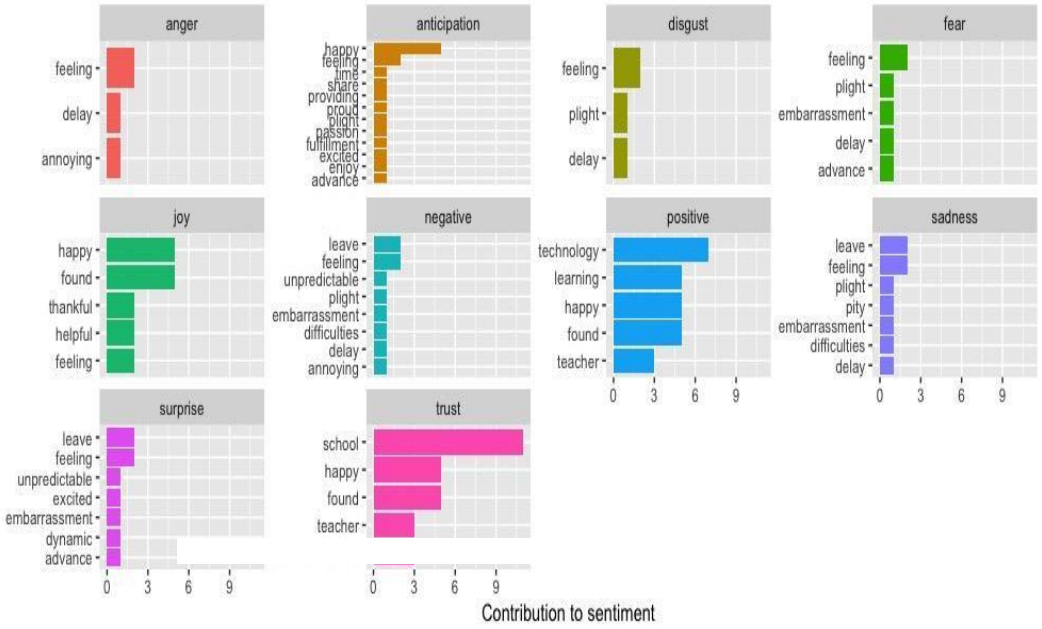

5 CONCLUSION

Based on the findings of the study, the following conclusions were drawn:

1. The competence status of teachers are lacking in terms of relevance of their educational degrees and training.
2. The state of implementation revealed major gaps.
   - 2.1. In meeting learners' needs, only learners with computer subjects had immediate access on the use of the computers.
   - 2.2. In covering the school learning system end-to-end, equipment constraints were encountered.
   - 2.3. In applying a single integrated approach, teachers' self–initiate in coping up with lacking materials.
   - 2.4. In enabling a holistic approach, there was no concrete systematic approach applied in terms of maximizing resources, training, and professional development and research.
   - 2.5. In terms of separating governance from management, organized and sustained support specifically on monitoring and evaluation of the ICT program was needed.

   Generally, the absence of a sufficient budget and clearly identified ICT infrastructure are the major flaws of the system. The system is generally run through the initiatives and ingenuity of the teachers, rather a clearly defined and implemented system.
3. The productivity software used by the ICT Teachers in teaching computer subjects are pre-installed, leaving many teachers to find other online sources to enhance their teaching. This has created diversity in the learning process, with less single unified educational and learning system.
4. The level of implementation of ICT integration in the school learning system is still low, with the lack of enough budgetary support; a uniform and connected academic system that covers both instruction and administrative system.
5. This lack of a teaching-learning comprehensive implementation scheme affects the overall state of the ICT implementation.
6. While there is stakeholders' support in ICT integration like the PTA, there is minimal involvement in developing the system since their engagement is very limited. There has been no clear information education campaign with parents, teachers, and the local partners in deploying ICT based teaching-learning in the schools, with disparaged and individual initiatives of teachers rather than the school system as a whole.

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7. While there are positive feelings regarding the contribution of ICT to the teaching-learning environment, many teachers expressed the need for a more comprehensive intervention on ICT development.

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