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## **Sustainability of the DEPED Computerization Program (DCP) of Public Elementary Schools in Sta. Cruz District**

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### **ABSTRACT**

This study aimed to develop an Intervention Plan for the DepEd Computerization Program of public elementary schools in Sta. Cruz District, Sta. Cruz, Ilocos Sur. It answered the following questions: What is the extent of attainment of the objectives of the DepEd Computerization Program in Sta. Cruz District? What is the level of adequacy of materials and resources of DepEd Computerization Program in the public elementary schools in Sta. Cruz District? What is the level of utilization of strategies of DepEd Computerization Program in the public elementary schools in Sta. Cruz District? What is the level of competence of teachers on DepEd Computerization Program in the public elementary schools in Sta. Cruz District? What is the degree of seriousness of the problems encountered along the implementation of the DepEd Computerization Program? What is the level of implementation of the DepEd Computerization Program in the public elementary schools in Sta. Cruz District? What Intervention Plan for DepEd Computerization Program of public elementary schools in Sta. Cruz District can be proposed? What is the level of validity of the validated Intervention Plan? Specifically, it focused of the sustainability of the DepEd Computerization Program of Public Elementary Schools in Sta. Cruz District, Sta. Cruz, Ilocos Sur. Descriptive-evaluative research was employed to the 66 respondents. The following conclusion were drawn: The extent of attainment of objectives in the implementation of the computerization program along the respondents was highly attained which denotes a satisfactory defined objectives of the computerization program. There is adequacy of materials and resources of DepEd Computerization Program in the public elementary schools in Sta. Cruz District. The utilization and integration of technology into the teaching-learning process brings new opportunities that can facilitate student learning. Teachers are very competent and equipped with the necessary knowledge and skills as far as DepEd Computerization is concerned. There is insufficiency of computer units (learner-computer ratio) The ICT coordinators, teachers and administrators were religiously complied on the level of implementation of DepEd Computerization Program. Intervention Plan are essential to be developed to aid and help teachers to sustain the implementation of the program. The developed Intervention Plan are timely, relevant and appropriate in enhancing teachers' skills, knowledge, understanding and performance to sustain the implementation of the computerization program. In the light of the findings and conclusions, the researcher hereby offers the following recommendations: Consistent implementation of the computerization program must be the continuing concern of the administrators, ICT coordinators and teachers. The school should hire security personnel to guard the school especially the DCP equipment. There must be a well-defined rules in using the DCP equipment to secure them from being damage. The Department of Education should conduct more trainings for School ICT coordinators and teachers for maintenance/ repair of the DCP program equipment. Need additional computer units to realize the implementation and integration of the computerization program in any subject and The Department of Education should make sure that there is an internet connectivity inside the school premises. Continues compliance to the program should always be observed and constant evaluation by the Division ICT Officer should be implemented to continuously monitor the program. There should also be support from other stakeholders in the implementation of the DepEd Computerization Program. A parallel study may be undertaken considering other sets of variables to find out other predictors for the better implementation of the program.

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**Keywords:** DepEd Computerization Program, Extent of Attainment of Objectives, Level of Implementation, Intervention Plan

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### **Introduction**

In this rapidly changing technological age, understanding of computers and how they operate is becoming more and more essential. Person without computer knowledge will be considered primitive in the light of present day standards. That is why a literate person must also be computer literate. The 21<sup>st</sup> Century was characterized by IT dominance. Technology became part of the global citizen's world wherever they live. Computer has thousands of uses and applications in business and in the lives of people. In schools, administration offices, in medicine, computer applications become common. Information and communications technologies (ICTs) have been touted as potentially powerful and effective tools for educational reform. When used appropriately, different ICTs can help expand access to education, strengthen the relevance of education and raise the quality of education by helping make teaching and learning into an engaging, active process connected to real life. (UNDP Bureau for Development Policy, 2005). The recent status of ICT education in the Philippines, along with other Southeast Asian countries, was surveyed by the Southeast Asian Ministers of Education Organization (SEAMEO) in 2011. Using the UNESCO model of ICT Development in Education, the countries were ranked as Emerging, Applying, Infusing or Transforming. The Philippines (with Indonesia, Thailand, and Vietnam) were ranked at the Infusing stage of integrating ICT in education, indicating that

the country has integrated ICT into existing teaching, learning and administrative practices and policies. This includes components such as a national vision of ICT in education, national ICT plans and policies, complementary national ICT and education policies, professional development for teachers and school leaders, community or partnership and teaching and learning pedagogies (DepEd 2014). ICT integration into teaching and learning had been explored in some provinces in the Philippines. Lorenzo (2015) study on the effectiveness of the Computer and Internet Literacy Project in Public Schools of Tarlac revealed that beneficiary schools encountered problems in project implementation. These problems include hardware failure, difficulty on the use of software package, lack of follow-up on capability building, no available internet connection, limited access to the laboratory, and lack of repair/maintenance of the equipment in the laboratory. Despite these problems, however, the project was rated by the teachers as very satisfactory in terms of project administration, project components, and project delivery system. This implies that the project in general was effective in attaining its objectives which is ICT integration in education and to bridge the digital divide among public high school teachers. In DepEd Region I, DepEd Computerization Program (DCP) are being implemented in all 14 divisions. In the Division of Ilocos Sur, there were 449 public elementary schools from the different barangays of the municipalities that are implementing the DepEd Computerization Program (DCP). All the 449 schools were able to comply with the requirements mandated by the Department of Education in order to receive the DepEd computerization package. One of the problems of the Division of Ilocos Sur is the implementation of the Computerization Program. Teachers, school heads, and ICT coordinators were not fully equipped with competencies, utilization, and implementation of the program. The Division ICT office conducted seminars to the teachers, ICT coordinators and school administrators but still most of the participants were not able to engage themselves in the field of Information and Communications Technology in order to address the mentioned problem of the Division of Ilocos Sur. Rentutar (2018). Elementary schools in Sta. Cruz District have complete ICT tools through DepEd Computerization Program. However, the researcher's own experience and observation in the problems encountered by administrators, ICT coordinators and teachers in implementation of the DepEd Computerization Program was the same with the findings mentioned by Rentutar (2018). The result of the study served as basis in sustaining the program of the public elementary schools in Sta. Cruz, District and to accelerate quality education and improving the educational system. This study will shed light to the administrators, ICT coordinators and teachers sustain the implementation of the program. The students who are the end beneficiaries will appreciate the implementation of the computerization program of the Department of Education. They will have a more effective and systematic instruction from well-planned teaching and learning process resulting to evaluate strategies, styles, and competencies that contributed to the successful development. This study serves as model in constructing intervention plan. The researcher assessed the status of sustainability of DepEd Computerization Program of the public elementary schools and developed an intervention plan.

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### **Statement of the Problems**

This study aimed to develop an intervention plan for DepEd computerization program in the public elementary schools of Sta. Cruz District, Sta. Cruz, Ilocos Sur. Specifically, it sought to answers the following problems: 1. What is the extent of attainment of the objectives of the DepEd Computerization Program in Sta. Cruz District? 2. What is the level of adequacy of materials and resources of DepEd Computerization Program in the public elementary schools in Sta. Cruz District? 3. What is the level of utilization of strategies of DepEd Computerization Program in the public elementary schools in Sta. Cruz District? 4. What is the level of competence of teachers on DepEd Computerization Program in the public elementary schools in Sta. Cruz District? 5. What is the degree of seriousness of the problems encountered along the implementation of the DepEd Computerization Program? 6. What is the level of implementation of the DepEd Computerization Program in the public elementary schools in Sta. Cruz District? 7. What Intervention Plan for DepEd Computerization Program of public elementary schools in Sta. Cruz District can be proposed? 8. What is the level of validity of the developed Intervention Plan?

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### **Scope and Limitation of the Study**

The focus of this study was to develop an Intervention Plan for DepEd Computerization Program (DCP) for public elementary schools in Sta. Cruz District. It delved on the sustainability of the DepEd Computerization Program (DCP) for public elementary schools in Sta. Cruz District. The respondents of the study were the 24 ICT coordinators, 23 teachers and 19 school heads in Sta. Cruz District, Sta. Cruz, Ilocos Sur. The proposed intervention plan for DepEd Computerization Program was submitted to a pool judgement of experts for external validity.

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### **Research Design**

Descriptive research design was used in this study. It aims to gather information about the condition and situations of the variables. The descriptive type of research is applied in this research since it attempts to describe the Implementation of DepEd Computerization Program (DCP). This design is considered appropriate in this study because it enables the researcher to gather information on the implementation of the DepEd Computerization Program through the standardized collection procedures based on highly structured research instruments and well defined study concepts and related variables.

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### **Population and Locale of the Study**

This study was conducted in the identified public elementary schools in the twenty-four (24) schools of Sta. Cruz District, Sta. Cruz, Ilocos Sur classified as big and small schools implementing a computerization program. The respondents of the study were the 24 ICT coordinators 23 teachers and 19 school heads in Sta. Cruz District, Sta. Cruz, Ilocos Sur.

## Results and Discussions

### *Extent of attainment of objectives of the DepEd Computerization Program*

It is gleaned from the table that the extent of attainment of objectives of the DepEd Computerization Program was highly attained indicated by 3.82 overall mean. The highest indicator was Use ICT in the administrative work of Administrators with a mean value of 4.29 and classified as very highly attained. Seven indicators were classified as highly attained and these were Raise the literacy of the school heads/administrators with a mean value of 4.20, Raising the literacy of teachers with a mean value of 4.12, Integrate the teaching-learning process and Raise the literacy of the pupils with a mean value of 4.02, Reduce computer backlogs with a mean value of 3.55, Utilize the E-classroom for teaching with a mean value of 3.52, Provide e-classroom for every school with a mean value of 3.47. Only one indicator was classified as moderately attained and this was Supply laptops used by the mobile teachers with a mean value of 3.26. The findings imply that the teachers and administrators are using the computer package especially on administrative work due to its capabilities in facilitating administration activities from data storage to knowledge management and decision making.

### *Level of Adequacy of Materials and Resources of DepEd Computerization Program*

It is gleaned from the table 2 that the level of adequacy of materials and resources of DepEd Computerization Program in the public elementary schools of Sta. Cruz District was highly adequate indicated by 3.80 over-all mean rating. The highest indicators were tables and sufficient lighting with a mean value of 3.97 and classified as highly adequate. Similarly, standard electric outlets (at least 2) also described as highly adequate having the mean value of 3.92, together with proper electrical wirings and groundings with a mean value of 3.89, chairs (at least 20) having mean value of 3.85, security mechanism (iron grills/security guard) having mean value of 3.83, aircon or at least 2 electric fans having the mean value of 3.79 and computer units having a mean value of 3.67. Only one indicator was classified as moderately adequate and this was multimedia classroom/e-classroom with a mean value of 3.30. The findings imply that all public elementary schools in Sta. Cruz District met the prescribed number of materials and resources needed for the implementation of the DepEd Computerization Program. It also imply that DepEd should provide more buildings intended for multimedia classrooms or e-classrooms.

### *Level of Utilization of Strategies in DepEd Computerization Program*

It can be gleaned from the table that Utilizing the computer and printer in making instructional materials ranked no.1 as indicated by mean value of 4.02 and it was highly utilized. Ranked no.2 was the Security mechanism (Iron Grills/Security Guard) as indicated by the mean value of 3.33 as described as moderately utilized, together with Utilize the computers by the pupils during the lesson with mean value of 3.30, Utilize the computer laboratory in delivering the lesson with mean value of 3.17, Utilize the computer laboratory in computing and preparing the grading sheets of the pupils with mean value of 2.97, Utilize the computers in the laboratory by the pupils in making their assignments or projects with mean value of 2.88, Utilize the computer and internet by the pupils in searching their projects or assignments with mean value of 2.71. The only indicator was classified as fairly utilized was Utilize the computer laboratory during free time of the pupils with a mean value of 2.45. In general, the level of utilization of strategies was rated 3.10 described as "moderately utilized". The findings imply that the DCP packages are very useful tools in making instructional materials and in the delivery of the lessons. With this computer-assisted instructional materials, education is enhanced, and learning is deepened and made more meaningful.

### *Level of Competence of Teachers of DepEd Computerization Program*

It is gleaned from the table that the respondents have outstanding performance in the first indicator which is Identify and define the functions of the main components (i.e. monitor, CPU, keyboard, mouse) of the computer having a mean value of 4.52, Identify and define the functions of the computer peripherals (i.e. printer, scanner, modem, digital camera, speaker, etc.) with a mean value of 4.47, Use storage devices (i.e. hard disk, CD, flash memory, etc.) for storing and sharing computer files with a mean value of 4.44, Organize and manage computer files, folders, and directories with a mean value of 4.35. The respondents were very satisfactory in the following indicators: Use a word processor to enter and edit text and images received a mean value of 4.18, Protect the computer from virus, spyware, malware, hackers, etc. and Use a presentation package to add text and sequence a presentation, both indicators received a mean value of 4.17, Print and store data tables using a spreadsheet application with a mean value of 4.09, Use a calculation spreadsheet to enter data, sort data and format cells into tables and Make computation, use formula and create graph having a mean value of 4.08, Print presentation handouts and store slide presentations with a mean value of 4.03, Explain the basic functions of the operating system with a mean value of 4.00, Enhance slide presentations by adding sound, customizing animation and inserting images with a mean value of 3.95, Assemble and connect main components, peripherals and install drivers properly and Organize computer settings of various software and hardware, both indicators received a mean value of 3.17.

### *Problems encountered along the Implementation of the DepEd Computerization Program.*

It can be gleaned that there were two indicators that described as highly serious which includes The ratio of computers to pupils is not enough with a mean value of 3.83 and No budget/funds to support the replacement of damaged equipment with a mean value of 3.41. Eight indicators were described as moderately serious and these were No personnel is hired to look after the equipment during night time with a mean value of 3.29, DCP equipment is damaged after 2 years of warranty with a mean value of 3.18, No sustainability plans in the implementation of DCP with a mean value of 3.11, The

Computer room or the e-classroom is not secured and The computers are damaged due to improper use and viruses both indicators received a mean value of 3.08, Undisciplined pupils damage the equipment with am mean value of 2.82, Plugs and outlets are broken or damaged with a mean value of 2.65 and Only the ICT coordinator is knowledgeable about the program with a mean value of 2.64. Four indicators were described as fairly serious and these were Teachers hesitate to use the computers with a mean value of 2.58, Teachers do not explore other software that is useful in teaching the learners with a mean value of 2.50, Inadequate trainings relative to the teachers' preparation on the DCP with a mean value of 2.45 and Teachers have insufficient skills in using the equipment with a mean value of 2.35. The findings imply that there is insufficiency of computer units to suffice the number of learners in the elementary schools and there were damaged computers and equipment which don't have budget/funds to support the replacement or repair of damaged equipment.

#### ***Level of Implementation of the of DepEd Computerization Program***

It can be gleaned from the table 6 that the level of implementation of the DepEd Computerization Program was very highly implemented indicated by 4.45 over-all mean value. The respondents rated very highly implemented in the indicators Computerize Nutritional Status with a mean value of 4.68, Computerize class record with a mean value of 4.61, Encode teachers' school forms with a mean value of 4.59, Encode teachers' lesson plan with a mean value of 4.56, Encode enrolment data of the learners plan with a mean value of 4.52, Computerize Learners Reference Number with a mean value of 4.50, Store administrators and teachers Personal Data Sheet in data base with a mean value of 4.42, Interpret test results and pupils performance using MS excel with a mean value of 4.38, Develop data base that Includes, plans, projects and activities in school Computerize stakeholders' data received 4.35. On the other hand, only two indicators were described as highly implemented, both received a mean value of 4.20 and these were Analyze performance indicator like Participation rate, Cohort-Survival rate, drop-out rate, retention rate of pupils and Operationalize school data base. The findings imply that the respondents with the help of the Deped Computerization Program facilitates in the preparation of various types of reports especially on learners data. Studies by Bhukuvhani et.al (2012) postulated that better access to computers and digital resources somehow facilitates teachers' work, saves time for accessing literatures and publications from laptops and keeps teachers abreast of their fields, and may inspire new ideas and enhance the quality of work.

#### **Conclusions and Recommendations**

Based on the salient findings, the researcher arrived at the following conclusions: 1. The extent of attainment of objectives in the implementation of the computerization program along the respondents was highly attained which denotes a satisfactory defined objectives of the computerization program. 2. There is adequacy of materials and resources of DepEd Computerization Program in the public elementary schools in Sta. Cruz District. 3. The utilization and integration of technology into the teaching-learning process brings new opportunities that can facilitate student learning. 4. Teachers are very competent and equipped with the necessary knowledge and skills as far as DepEd Computerization is concerned. 5. There is insufficiency of computer units (learner-computer ratio) 6. The ICT coordinators, teachers and administrators religiously complied on the level of implementation of DepEd Computerization Program. 7. Intervention Plan is essential to be developed to aid and help teachers to sustain the implementation of the program. 8. The developed Intervention Plan is timely, relevant and appropriate in enhancing teachers' skills, knowledge, understanding and performance to sustain the implementation of the computerization program. Based on the findings and conclusions made, the following recommendations are highly offered:

Consistent implementation of the computerization program must be the continuing concern of the administrators, ICT coordinators and teachers. The school should hire security personnel to guard the school especially the DCP equipment. There must be a well-defined rules in using the DCP equipment to secure them from being damage.

The Department of Education should conduct more trainings for School ICT coordinators and teachers for maintenance/ repair of the DCP program equipment. Need additional computer units to realize the implementation and integration of the computerization program in any subject and The Department of Education should make sure that there is an internet connectivity inside the school premises. Continues compliance to the program should always be observed and constant evaluation by the Division ICT Officer should be implemented to continuously monitor the program There should also be support from other stakeholders in the implementation of the Deped Computerization Program. A parallel study may be undertaken considering other sets of variables to find out other predictors for the better implementation of the program.

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