INSTRUCTION OF COMPUTER EDUCATION PROGRAM: BASIS FOR A PROPOSED MANAGEMENT PLAN FOR TEACHERS

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ABSTRACT

There are two concepts around the use of computers in education that are frequently misunderstood. These concepts are teaching with computers and teaching about computers. Computer education is a preparation for a child's future. A high school student will more or less have another seventy years of his life and it is important to consider what type of world will exist at the future time. It is also important to remember that computer education extends beyond the four walls of the classroom and attenuates into the actual world (Padilla and Plomantes, 2005).

Along this line, Lapuz (2006) deplored the tendency of some computer companies to commercialize the computerization and modernization program of the Department of Education. Since the school has started its modernization program, computer firms proliferated into the provinces and through arrangement with some school administrators offered computer subjects in the public schools.

Interestingly, teachers sometimes express the fear that technology will replace them — but it will not. Personal computers will not replace nor devalue any of the human talents but a need for educational challenges ahead. There will always be a need for committed teachers, seeing chemical reactions on a computer screen can be a good supplement to hands-on work in the different learning areas, but it cannot replace the real experience.

INTRODUCTION

The computers will not be popular in the classroom to give learning experience, but they will effectively augment learning. Making computers and information technology as part and parcel of the teaching and learning procedures give a numerous advantages. In this recent year's shows as a basis of interaction and communication to a person – ask a question, there will be an answer. But the computer is infinitely patient. Ask a thousand questions, there will be a thousand answers. Therefore, computer education is a remarkable development because it empowers the students of all ages to learn on their own rate.

The teacher will remain essential for the student most of the time, but often the teacher will serve as a guide for the student in exploring a world of information. Computer can give the student or the individual great latitude to exploit their best style of learning and areas of interest, so that the individual is not penalized for being out of the schedule or the methods of an instruction or a textbook.

The computer in education will definitely be of great help to students and teachers alike. Education needs to keep up with all the changes that are going on in the world and the best way is to make computers a part of every students and teachers' life.

From the above context, teaching of computer education in the public secondary schools is a must. The department of education spends a lot of money to train some teachers in the field of computer education that eventually benefit the students. The preparation of the teacher to teach and integrate the concepts of computer education in some learning areas such as: in English, Math, Science, Technology and Livelihood Education must be looked into to ensure the totality in the acquisition of the learning skills of the students.

Along this line, it is imperative to look into the instructional competence and preparedness of the teacher in imparting knowledge, and skills to the students. According to Gabriel (2005) instruction is "the management or direction of teaching activities in the classroom such as instructional objectives, instructional materials, instructional evaluation, instructional technology and instructional strategies".

Similarly, teaching is the behavior of the teacher that evolves during the instructional process while instruction is the specific methods and activities by which the teacher influences learning. Instructional management includes operation and control of activities inside the classroom.

It is the concern of the study therefore to determine the computer education instruction in the public secondary schools. The teachers themselves will gain insights on how their instructional effectiveness is carried out inside the classroom.

STATEMENT OF THE PROBLEM

This study sought to determine the instruction of computer education in the public secondary schools. Specifically, it sought to answer the following sub-questions:

1. What is the profile of the computer education teachers as to the following variables: (a) educational attainment; (b) teaching experience; (c) number of in-service trainings?
2. What is the extent on the attainment of the learning competencies or objectives in computer education instruction by the teachers in the public secondary schools?
3. What is the level of adequacy of the instructional materials used by the teachers in computer education instruction in the public secondary schools?
4. What are the strategies or methods that are commonly used by the teachers in computer education instruction in the public secondary schools?
5. What is the difference between the evaluation of the teachers and schools heads on the extent of the attainment of the learning competencies or objectives in the computer education instruction?
6. What is the difference between the evaluation of the teachers and school heads on the adequacy of instructional materials in the teaching of computer education?
7. What is the difference between the evaluation of the teachers and school heads on the methods and strategies used in the teaching computer education?
8. What is the relationship between the profile of the computer education teachers as to: (a) extent on the attainment of the learning competencies or objectives by the teacher; (b) adequacy of instructional materials and (c) methods or strategies used in the teaching of computer education?
9. What plan of action can be proposed to improve the computer education instruction in the public secondary schools?

PROCEDURES AND METHODOLOGY

There are 20 identified public secondary schools offering computer education in the division and they were the respondents of the study comprising a 100 percent of the total respondents. The output of the study was plan of action to enhance the teaching of the computer education in the public secondary schools.

The study employed the descriptive method

of research because of the following claimed: (1) it described the existing status with regards to the computer education instruction in the public secondary schools; (2) it described how adequate are instructional materials in the teaching of computer education in the public secondary schools. The study is also a developmental research in nature since the expected output was a plan of action in the teaching of computer education in the public secondary schools in Pangasinan I.

The study was conducted at the Division I of Pangasinan, particularly those schools offering computer education as integrated in the learning areas - Technology and Livelihood Education (TLE). The respondents of this study are the 70 teachers and 35 school heads offering computer education as integrated in the learning areas in Technology and Livelihood Education (TLE) in public secondary schools in the Division of Pangasinan I. They were asked to give their evaluation on the computer education instruction in the public secondary schools.

The main instruments of the study to collect the data needed were of two sets (1) the checklist on the profile of the teachers teaching computer education in the public secondary schools; (2) the checklist on the evaluation of the computer education instruction in the public secondary schools such as: learning competencies, instructional materials, methods and strategies.

The above instruments were used in order to gather data in answer to the specified sub-problems. The data obtained through the questionnaire were tallied and analyzed following the sequence of the sub-problem and the items in the instrument. The accomplished questionnaire was sorted out and individual responses was tallied with the following point values: 5 - (4.50-5.00), 4 - (3.50-4.46), 3 - (2.50-3.49), 2 - (1.50-3.49), and 1 - (1.00-1.49) was assigned to such responses as: fully attained - very adequate - always, moderately attained – adequate – oftenly, partially attained – partially adequate - sometimes, slightly attained – inadequate - rarely, and never attained – none at al – never.

The teachers and school heads responses in each item in the questionnaire were quantified by multiplying the numerical value by the frequency of such response, and the sum of the products were divided by the number of respondents. Corresponding with the quantification the following formula was used (Fox, 1999).

The Friedman two-way analysis of variance (ANOVA) by rank was used to test the significant difference between and among teachers and school heads' evaluation in answer to the posited research hypotheses.

The following steps were followed in the computation of the Friedman two-way analysis of variance (ANOVA): (1) rank the mean responses of the respondents where the lowest mean value ranks 1; (2) total the ranks of each variable to get ΣR; (3) compute by using the formula; (4) compute the degrees of freedom by using the formula, df=k-1; (5) choose the level of probability and refer to the chi-square table.

STUDY FINDINGS

Based on the collected data as interpreted, analyzed and synthesized the following findings of the research study are formulated:

1. There are 5 or 7.14 percent with an educational attainment of Bachelor of Science in Computer Education, while 2 or 2.86 percent obtained a Masteral Degree in Education. Most of the computer education teachers graduated as Bachelor in Secondary Education (BSE) but 15 or 21.43 percent are English major, 12 or 17.14 are Filipino and Math in specialization, and 14 or 20 percent are Science in concentration.

There are respondents that obtained an educational attainment of Bachelor of Science in Industrial Education major in Drafting with a frequency of 4 or 5.71 percent and 6 or 8.57 percent. Greater number of the respondents rendered 1 to 2 years in the public schools with 25 or 35.71 percent and there are only 10 or 14.29 percent out of the 70 respondents who accumulated a government service of 7 years and above.

There are 19 or 27.14 percent of the teacher-respondents who acquired a length of service as public servant of 3 to 4 years while there are 16 or 22.86 percent who managed to stay in the public school of 5 to 6 years.

Most of the teachers attended an in-service training in the congressional level (65) followed by their attendance in the district level (46). There are 23 of the teachers who are able to attend the regional in-service training and 34 of the teachers were able to register in the division level in-service training. Few of the respondents attend a national (12) in-service training.

2. The extent on the attainment of the learning competencies or objectives along *the basic concepts of computers* disclosed as "partially attained" by the teachers (x=3.09) and by the school heads (x=3.03).

The extent on the attainment of the learning competencies or objectives *on the functional knowledge of spreadsheets* were "partially attained" as deduced by the school head (x=2.62) and by the teachers (x=2.53).

On *the database management packages* as an area of computer education the school heads evaluated as "partially attained" with x=2.97 and x=2.89 by the teachers.

Along the *basic skills in using graphic packages* the average weighted mean of x=2.37 by the school heads and x=2.39 by the teachers disclosed as "slightly attained".

3. The average weighted mean of x=2.30 for the school head and x= 2.14 for the teachers revealed that the instructional materials in teaching computer education is "inadequate".

4. The methods and strategies commonly used by the teachers are: problem solving (x=3.57 by the school heads and x=3.58 by the teachers); lecture (x=3.65 by the school heads and x=3.62 by the teachers). For variation, the teachers also used tutorial mode (x=3.56) and self-teaching mode (x=3.54)

5. The school heads and the teachers evaluated differently on the extent of the attainment of the learning competencies in the teaching of computer education on *the basics concepts of computers*.

The same evaluation of school heads and teachers on the extent of the attainment on the following areas: on the functional knowledge of spreadsheets; on the database management packages; and on the basics skills in using graphics packages.

6. The school heads and teachers disclosed to have the same observation with regards to the adequacy of the instructional in teaching computer education.

7. The school heads and the teachers evaluated closely as to the methods and strategies commonly used by the teachers in teaching computer education.

8. The variables such as educational attainment, teaching experience and the number of in-service trainings are related to the extent of attainment of the learning competencies, adequacy of instructional materials and the methods and strategies used in teaching computer education.

CONCLUSIONS
Based on the data collected and from the formulated study findings the following conclusions are drawn:

1. Teachers who were assigned to handle computer education in the public secondary schools of Pangasinan I were not major nor minor in computer education. The teacher teaching computer education undergoes several trainings to equip them with the right computer skills. The teaching computer education is still young in the service as such they possess the vigor and vitality to perform such given assignment or task.

2. The extent of attainment of the learning competencies in teaching computer education in the public secondary schools of Pangasinan I are not fully attained because of selective implementation. Those schools with computer facilities can offer computer education to their students.

3. The instructional materials in teaching

computer education are very much wanting. The technology is inadequate due to the high monetary cost of the equipment or unit in which most of the public secondary schools cannot afford.

4. The evaluation of the school heads and teachers on the extent on the attainment of the learning competencies on the basic concepts of computers are comparable. Several teachers did imparting the basic skills on the concepts of computer education.

5. The school heads and teachers display the same evaluation on the adequacy of instructional materials, methods and strategies used in teaching computer education in the public secondary schools of Pangasinan I.

6. That educational attainment, teaching experience and number of in-service trainings of the teachers are factors that affect and considered in the teaching of computer education in the public secondary schools.

RECOMMENDATIONS
Based on the study findings and on the formulated conclusions the following recommendations are hereby offered:

1. The Department of Education through the division offices should formulate policies, programs and projects for scholarship grants, trainings and additional units in computer education for those teachers handling computer education subjects. In this way the teachers will strengthen and enhance his skills.

2. The curriculum planner in the department should design a program and policies - that a computer education should be taken as a separate subject of the students. The computer education should serve as a specialization of the students to enhance their skills and competencies.

Teachers teaching computer education should prepare budgeted learning competencies that are to be taken for a particular day, week or month. In this way the teachers and students are aware of what are to be taken and carried out. This is a simple way of management by objectives (MBO).

3. Due to the inadequacies of instructional materials the teachers and schools heads should implement the following programs of the Department of Education to wit: (1) Adopt-a-School Program this is a program of the department where the community stakeholders could help or donate a complete unit of computer and its maintenance; (2) Linkages and Mobilization Program this is a program of the department where the community stakeholders could exert effort or

joined in group and extent a support to the programs and projects of the school; (3) Resourcing this is an activities wherein the teachers and school heads ask for donations, solicitations and monetary assistance to the community stakeholders.

4. Although there are several factors to consider in the used of an appropriate teaching strategies or methods the computer education teachers should formulate a workable plan of the possible teaching strategies or methods in each learning areas or competencies of the computer education curriculum. This will serve as a data bank of teaching strategies for the teachers.

5. In order to measure the extent of attainment of the learning competencies, the teaching strategies and methods for its effectiveness, the competence of the teachers the school heads and teachers should formulate a valid and reliable assessment tools such as: achievement test, or summative test to measure the performance of the students in computer education.

6. The instructional plan as an output of the study should be tested for effectiveness in the school, division, and regional level. The plan of action should be given consideration by the authorities for wider implementation. In this way the results of such activities will serve as a data bank of information for further study.

REFERENCES

1. Aquino, Bonifacio R., Training and Its Importance. Taytay, Rizal: Angeles and Sons, 2000.
2. Bialo, William H., Essentials of Teaching Computer. New York: Boston D.C. and Company, 2006.
3. Camba, John S., A History of the Problems of Computer Education. Hill Book Company, 2004.
4. Cornell, Creighton P., Training In Computer Education. New York: McGraw-Hill Book Company, 2006.
5. Carino, Richard W., How Children Learn Computer Education. New York: McMillan Publishing Company Inc., 2006.
6. Copper and Caddle Baasen, Grossmikle, Developing and Understanding Senior Schoolers. Philadelphia: Jhon C. Wriston Company, 2005.
7. Gloria, Manuel B., Focus of Computer Teaching in the Philippines. Rex Publishing Company, 2005.
8. Gabriel, Ronald K., Motivation In Computer Education. Prentice 21ˢᵗ Century Year Book, 2005.
9. Gross and Heriott, Vincent G., Understanding Social Organization. Beverly Hills, California. Harper and Ron Co., 2005.
10. Goode, Harold. Social Organization in Teaching Computer Education. Beverly Hills, California. Harper and Ron Co., 2006
11. La Putt, Lee. The Child and His Curriculum. New York: Appleton-Century Crofts, Inc., 2005.
12. Lapuz, Moses. Fundamentals of Trainings. New York: The McMillan Company,2006.
13. Martinez, Gloria G., Teaching Approaches and Strategies in Computer Education: Quezon City: Katha Publishing Company, Inc., 2005.
14. Mortera, W. M. Report of the Commission on Relation of School and College. New York: D. Appleton-Century Co., 2006.
15. Padilla and Plomantes, Elmer. Understanding Human Behavior. Beverly Hills, California. Harper and Ron Co., 2006.
16. Perez Harold C. Successful High School Teaching Computer Education. USA: The Riverside Press, 2004.
17. Navarro, Harold C. Successful High School Teaching. USA: The Riverside Press, 2005.
18. Patungan, General Education in a Free Society. Cambridge Mass.: Harvard University Press, 2006
19. Rodriguez, Eduard A., The Secondary School Curriculum in Computer Education. New York: Harper and Brothers Publishers,2004.
20. Sommer, James W. Secondary School Curriculum. Columbus, Ohio: Charles E. Mesrill Books, Inc., 2004.
21. Stennett, Sam P. Successful High School Teaching Computer Education. Boston: Houghton Mifflin Co., 2006.
22. Seel and Glasgow Chiapetta Q. Secondary School. New York: Harper and Brother Publisher, 2006.
23. Salvador, Arturo G., "Trends and Issues in Philippine Education", Philippine Journal of Education, January, 2005.
24. Valencia, "Survey on the Secondary Education", Philippine Journal of Education, January,2006.
25. Watson, Flora H., "Drop-out In the Philippines: An Analysis", Modern Teacher of Education, December, 2005.
26. Wantanee, Rodolfo Q., "Education for Change", Philippine Journal of Education, 2005
27. Birion and De Jose, Henry F. "Curriculum for the 21ˢᵗ Century", Philippine Journal of Education, January, 2001
28. Fox, Gloria P., "Creative Teaching." The Modern Teacher, October 1999.
29. Cortez, Letecia, "Improving the Teaching-Learning Abilities of Students in Computer Education." The Modern Teacher, September 2005.
30. Diaz, Cresilda H. "Teaching Computer Education In Relation to Other Subject Areas." Caloocan City: Philippine Graphic Arts, 2003.
31. Ganilla, Dale S. Computer Education: A Research. London: McMillan Co., Collier 2004.
32. Guzman, Harold W. Teaching Computer Education for High School Students: A Theory. Kalamazoo, Michigan: Western Michigan University, 2003.
33. Gabriel, Walter R.Social Statistics, 2nd Ed. New York: McGraw − Hill Book Company, 2004.
34. Junio, Koopman Practical Application of Democratic Administration. New York: Harper and Brothers Publishers, 2004.
35. Jurilla, Gelia et. al. Leaders and Leadership Patterns in Four Selected Barrios of Los Baños, Laguna: University of the Philippines,2004.
36. Orpilla, Feliciano D. The Human Variables in Computer Education: Philippine Setting. Manila: Ateneo de Manila University, 2003.
37. Santos, Ferguson A. Teaching Computer Education 4th Ed. New York: Mc Graw-Hill Book Company, 2003.