

Level of Efficiency of the Information Technology Professional Subjects Instruction at the Catanduanes State University for School Year 2015-2016

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Abstract

This study determined the level of efficiency of Information Technology (IT) professional subjects' instruction at the Catanduanes State University for school year 2015-2016. This study could be useful for schools offering IT courses for them to assess the quality of the instruction that they are offering, the discipline, training, updated knowledge and skills as well as the personal and professional qualities possessed by the faculty members and also the state of the art facilities that will augment the conduct of teaching and learning process in order to produce high productivity results for students in order for them to be equipped with the capabilities needed in the industry not just in the country but abroad. Quality instruction would enable trust and confidence of the community in the IT curricular offerings of the university. Independent variables of faculty profile, personal qualities and knowledge and skills were considered in this study and the level of teaching efficiency for the IT professional subjects served as the dependent variable in this study. Faculty profile and the IT faculty member's knowledge and skills on the IT professional subjects were tested for their relationship with the IT faculty member's level of teaching efficiency for teaching IT professional subjects. Descriptive survey method was employed in this research using questionnaire as a data gathering instrument to determine the level of efficiency of IT professional subject instruction at the Catanduanes State University for the school year 2015-2016. The total population of this study was the 211 Bachelor of Science in Information Technology (BSIT) and 128 Bachelor of Science in Information Systems (BSIS) students and 12 faculty members teaching the IT professional subjects at the College of Information and Communications Technology in this university. Findings revealed that the knowledge and skills of faculty member in teaching IT professional subjects is "excellent"; the level of efficiency of faculty members in teaching IT professional subjects is "very efficient"; mastery of the subject matter is the same regardless of age, gender, monthly income, highest educational attainment and school graduated, however, the mastery of the subject matter differ in terms of relevant trainings attended in teaching IT subjects. Thus

training for faculty development is needed to give the faculty members first-hand information and experience on the current trends in information technology being a very dynamic field.

Keywords: level of efficiency, information technology, professional subjects, information technology professional subjects, subject instructions

Introduction

In the advent of information and communications technology, globalization and knowledge-based economy, computers had invaded all aspects of human activities to science laboratories, technological fields, banks, supermarkets, medical labs and different industrial office. The role of information technology (IT) is indispensable. It could help the learners pursue information and knowledge by suggesting leads where the information can be found. In such manner, students will revolutionize education by assuming new roles – that of navigators in a field of data, triggered by a research process beginning with curiosity and a desire to learn. Modularized lecturers and hands-on computing skills such as design techniques like flowcharting, software concepts, computer programming concepts and computer languages like word processing, spreadsheet software, data processing software, multi-media presentations, desktop publishing, web publishing and network concepts are offered to the students. Because of this, a program for innovating information technology education is being propelled to arm the schools with contemporary tools and services to initiate new schemes in the teaching and learning process that is taking advantage of the breakthrough in technologies.

Modernized education is making use of Information Technology (IT). This is an essential resource in multiplying information and enabling greater access to knowledge and enhances skills development and more important, it links learner through interactive systems that makes learning a dynamic experience. Likewise, IT will help build a society based on peace, harmony and tolerance. Teaching is a complex human activity. In fact, teachers have to play different roles to ensure effective teaching for his/her students. In fact, there is no solitary learning strategy that could satisfy the necessities or requirements of each learner. It is but natural that teachers should introduce new insights, fresh knowledge and skills obtained from training and advanced schooling. Hence an appraisal of the teacher's teaching prowess should be done with religious and utmost care so that their morale would be boosted and quality education to his/her learners are attained. Such process of assessing the teacher's performance should replicate the teaching innovations and intricacy of the activities imposed inside the classroom. In this regard, the conduct of IT instruction must be examined, the personality and professional qualifications, significant preparation relevant to the teacher's field of specialization must be looked into so that quality instruction and globally competitive students will be produced.

There were researches conducted to assess the quality of instruction for English, Mathematics and sciences but assessing quality of instruction for information technology subjects as well as IT program offerings such as Bachelor of Science in Information Technology (BSIT), Bachelor of Science in Information Systems (BSIS), and Bachelor of Science in Computer Science (BSCS) are very scarce in the course of this investigation. This was the gap observed that is addressed by the present study.

Statement of the Problem

This study determined the level of efficiency of instruction of the Information Technology Professional Subjects in order to identify what are the needed interventions that the

administration should try to work out in order to elevate the quality of teaching efficiency of the faculty members.

Specifically , this study answered the following specific questions: (1) What is the profile of the faculty members at the Catanduanes State University who are teaching the Information Technology Professional Subjects for school year 2015-2016 in terms of: (a) Age, (b)Gender, (c) Civil Status, (d) Educational Attainment, and (e)Training on IT Professional Subjects?; (2) What are the personal qualities of the faculty member that contributes to his/her level of teaching efficiency?; (3) What are the knowledge and skills in the Information Technology Professional Subjects that should be possessed by the faculty members teaching these subjects that will contribute to their level of efficiency in the instruction for Information Technology Professional Subjects? (4) What is the level of efficiency of the instruction for the Information Technology Professional Subjects at the Catanduanes State University as perceived by the faculty members and students for school year 2015-2016?; (5) Is there as significant relationship between the profile of the faculty members who are teaching Information Technology Professional Subjects and the level of efficiency of teaching the Information Technology Professional Subjects at the Catanduanes State University for the school year 2015-2016? and (6) Is there as significant relationship between the knowledge and skills of the faculty members who are teaching Information Technology Professional Subjects and the level of efficiency of teaching the Information Technology Professional Subjects at the Catanduanes State University for the school year 2015-2016?

Research Design of the Study

Descriptive survey method was employed in this research using questionnaire as a data gathering instrument to determine the level of efficiency of IT professional subject instruction at the Catanduanes State University for the school year 2015-2016. The total population of this study was the 211 Bachelor of Science in Information Technology (BSIT) and 128 Bachelor of Science in Information Systems (BSIS) students and 12 faculty members teaching the IT professional subjects at the College of Information and Communications Technology in this university. The level of efficiency of the instruction for the Information Technology Professional Subjects at the Catanduanes State University for school year 2015-2016 were determined through survey, ocular observations and interview approach.

Significance of the Study

This study has significance to the policy makers in order to consider giving scholarship grants to the faculty members that focuses according to their area of specialization, skills and capabilities. The teachers will be encouraged to specialize more in computer programming and systems development subjects since these areas are necessary in developing application solutions that could aid in the teaching and learning process as well as facilitate the transaction in the offices or organizations. Likewise alignment of subjects handled by the faculty members according to their area of specialization, identification of needs of faculty, instructional resources and visual media that will promote high productivity results for students and helping them to become globally competitive individuals should be done by school administrators to entice trust and confidence of the community in the IT curricular offerings of the university will be given preferential attention. This research will also serve as a benchmark study for assessing the quality of IT instruction since there is neither existing article that discusses assessment of IT instruction nor study reviewed relating to quality of IT instruction.

Method of Procedure

Descriptive survey method using questionnaire, ocular visits by the researcher to each participating schools, conducting informal and formal interviews were the primary instruments used to gather the data and other necessary information relevant to this study. There were 339 total respondents participated and they were randomly interviewed through convenient method. The survey questionnaire made use of a 5-point Likert Scale of 5, 4, 3, 2 and 1, (5 being the highest and 1 being the lowest). This survey questionnaire primarily assessed the personal qualities of the IT teachers as well as the knowledge and skills of the IT faculty members. The same scale was also used to measure the level of efficiency of IT professional subject's instruction.

Collection of Data

The total population of this study was the 211 Bachelor of Science in Information Technology (BSIT) and 128 Bachelor of Science in Information Systems (BSIS) students and 12 faculty members teaching the IT professional subjects at the College of Information and Communications Technology in this university. Data were gathered through questionnaire that were distributed to the 12 faculty members and the study sample of 114 BSIT and 69 BSIS students.

Treatment of Data

Descriptive statistics of frequency count and weighted mean were utilized in analyzing the data of the research. Chi-square statistic was used to test the relationship between the profile of the faculty and the level of teaching efficiency and the relationship between the knowledge and skills of the faculty members in teaching the IT professional subjects and their level of teaching efficiency in teaching those subjects.

Findings

The typical faculty member who teaches IT professional subjects is between 30 to 50 years of age, female, married, has monthly income of Php 35,000.00, a bachelor's degree holder, graduated bachelor's degree from CSU, taken up master's units in MIS at PUP or UPOU and have attended trainings on C Programming, Visual Basic, Systems Analysis and Design and Java Programming;

The personal qualities of faculty members teaching IT subjects are: Projects his image of authority, shows enthusiasm and vitality in the classroom; shows respect towards the students; Responds to the student questions and comments in a timely and conscious manner; Wears proper and decent attire in the classroom and is neat and well-groomed; is polite and patient in dealing with the students and is approachable; express his/her ideas confidently and speaks clearly and understandably.

The knowledge and skills of faculty member in teaching IT professional subjects is "excellent"; The level of efficiency of faculty members in teaching IT professional subjects is "very efficient"; Mastery of the subject matter is the same regardless of age, gender, monthly income, highest educational attainment and school graduated, however, the mastery of the subject matter differ in terms of relevant trainings attended in teaching IT subjects. This could be due to the fact the training could give the faculty members first-hand information and experience on the current trends in information technology being a very dynamic field; Teaching

methodology is the same regardless of age, gender and highest educational attainment, however, teaching methodology differ in terms of highest educational attainment and relevant trainings attended on IT subjects. Enrolling in post-graduate programs related to information technology as well as attending training that is also related to information technology would enable the faculty to explore new insights, concepts and approaches that will make the teaching and learning process more interesting and effective and; Classroom management is the same regardless of age, gender and school graduated. However, classroom management differs in terms of monthly income, highest educational attainment and relevant trainings attended on IT teaching. Effective teachers update trends in information technology in the teaching and learning process would enable to make the students feel that their professors are really authorities for information technology related subjects.

Conclusion and Implication of the Study

Based from the findings of this research the following conclusions were drawn: (a) The typical faculty member who teaches IT professional subjects is 30-40 years of age, female, married, has monthly income of Php 35,000.00, a bachelor's degree holder, graduated bachelor's degree from CSU, taken up master's units in MIS at PUP or UPOU and have attended trainings on C Programming, Visual Basic, Systems Analysis and Design and Java Programming; (b) The personal qualities of faculty members teaching IT subjects are: Responds to the student questions and comments in a timely and conscious manner; Projects his image of authority; Wears proper and decent attire in the classroom and is neat and well-groomed; etc.; (c) The knowledge and skills of faculty members in programming are: Gives programming exercises and exams, which are challenging and reasonable; Demonstrate thorough, accurate and up to date knowledge in programming; Knows how to execute programs using several programming languages such as Turbo C, Turbo Pascal, Visual Basic, Java and the likes; etc.; In systems analysis and design the knowledge and skills of faculty members are: Is familiar with the different software development and maintenance models; Explains the manner/steps of systems/software development in such a way that the students could easily understand the concepts being discussed; Proficient in performing Software Implementation activities; etc.; The knowledge and skills in graphics and multimedia are: Design and create a two-dimensional animation; Design digital composition using graphics software; Exhibits familiarity with the interfaces of the Graphics software; etc.; In terms of web design faculty members have knowledge and skills on: Demonstrate flexibility in designing web pages; Gives web designing exercises and exams, which are challenging and reasonable; Familiarity with the rules, building blocks and guidelines in web designing; etc.; The knowledge and skills on data communications and networking are: Demonstrate thorough understanding with the different physical characteristics of wired and wireless networks and various communications media; Is aware and proficient on the different security issues and threats in computer networks and internet; Proficiency in discussing the uses and functionalities of Internet and TCP/IP;etc.

In terms of database management systems, the knowledge and skills are: Could identify the different data and business rules that would be used in modelling a database design; Could identify, compare and contrast the different data models that are used in developing and designing database systems; Could identify the different stages in the database development process; etc.; (d) The level of efficiency of faculty members in teaching IT professional subjects is "very efficient"; (e) Mastery of the subject matter is the same regardless of age, gender, monthly income, highest educational attainment and school graduated, however, mastery of the subject matter differ in terms of relevant trainings attended in teaching IT subjects.; Teaching methodology is the same regardless of age, gender and highest educational attainment, however, teaching methodology differ in terms of highest educational attainment and relevant trainings

attended on IT subjects.; (f) Classroom management is the same regardless of age, gender and school graduated. However, classroom management differs in terms of monthly income, highest educational attainment and relevant trainings attended on IT teaching.

It is recommended that the faculty members teaching IT professional subjects must be encouraged to retool, re-train and finish their master's and doctorate degrees in their respective area of specialization. Training needs assessment of faculty relating to IT Professional subjects and thorough preparation and implementation of faculty development plan that considers alignment of faculty qualifications according to their career track/path should be done. Likewise alignment of subjects handled by the faculty members according to their area of specialization, skills and capabilities should also be given emphasis; and lastly, identification of needs of faculty, instructional resources and visual media that will promote high productivity results for students and helping them to become globally competitive individuals should be done by school administrators to entice trust and confidence of the community in the IT curricular offerings of the university.

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