

## RESEARCH PAPER

# ICT COMPETENCY AND INTEGRATION AMONG FACULTY MEMBERS:AN ACTION PLAN

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### ABSTRACT

This study investigated the faculty members' competency and integration of ICT in instruction. It determined whether the faculty members' levels of ICT competency and integration were significantly related to their profile variables of sex, age, highest educational attainment, teaching experience, and teaching discipline. Likewise, this study sought to find out the correlation between the faculty members' level of ICT competency and their level of integration in using ICT as teaching tools.

The descriptive research design was employed to collect information concerning ICT integration and competency of the faculty members. The data collected were analyzed and served as bases in devising a plan of action to enhance the faculty members' competency and integration of ICT in instruction.

**KEYWORD:** ICT competency, ICT integration in instruction, ICT action plan, faculty member

### 1. INTRODUCTION

Information and communication technologies (ICT) are an increasing part of life and work these days. Most jobs that exist in the world today require people to use technology, sometimes without even realizing it. As the global economy has changed from industrial to information-based economies, demand for skilled workers who are capable of harnessing emerging information and communication technologies to efficiently produce new goods and services has increased (Hooker, *et al*, 2011). Many economies have come to realize that investment in developing intellectual capital is the key to modernization, global competitiveness and an essential ingredient for economic efficiency and social equity (Camacho, *et al*, 2003).

Today's knowledge-based economy and rapid advances in information and communications technologies prod higher education organizations to set up mechanisms that will enable teachers and learners to survive and succeed in this highly competitive world (Valenzuela, 2006). Undoubtedly, the Philippine government focuses on harnessing information technology in boosting performance of teachers, students and other education stakeholders to be competitive and to move forward.

At the helm of this development are the emergence of national education policies and laws on ICT implementation and utilization to support the many

challenges of the higher education sector. One of the significant educational legislations and policies include Republic Act No. 8792 or the Electronic Commerce Act of 2000. R.A. 8792 is an act providing for the recognition and use of electronic commercial and non-commercial transactions. The law recognizes the value of appropriate training programs and institutional policy changes, and ICT literate human resources for the knowledge-based society. It also states the need for labor force skilled in the use of ICT and a population capable of operating and utilizing electronic appliances and computers; its obligation to facilitate the transfer and promotion of adaptation technology, to ensure network security, connectivity and neutrality of technology for the national benefit.

The Philippine Government believes that education should evolve and nurture an ICT framework designed to enhance, broaden, strengthen and transform learning to develop the Filipino learner into a person who is excellence-driven, global in perspective, innovative, ingenious and creative, with a deep sense of community and concern for harmony and the common good. Toward this vision, education must empower learners, equipping them for the challenges in the new millennium by improving the quality and accessibility of education through the use of appropriate ICT (Valenzuela, 2006).

In order to achieve this vision, the teachers will be performing a very important role. The teachers are

considered the integral part of integration because they are the designers of the courses. The most critical component, in order for students to attain the true benefits of technology, lies in the implementation by the teacher. Integration comes when technological tools assist students in the process of learning. Due to the impact of ICTs in the classroom setting, it is but vital that an evaluation of the faculty members' levels of ICT competency and integration in classroom instruction be conducted.

## 2. METHODOLOGY

This study utilized the descriptive research design to collect information concerning ICT integration and competency of the faculty members. It determined whether the faculty members' levels of ICT competency and integration were significantly related to their profile variables of sex, age, highest educational attainment, teaching experience, and teaching discipline. Likewise, this study sought to find out the correlation between the faculty members' level of ICT competency and their level of integration in using ICT as teaching tools. The data collected were analyzed and served as bases in devising a plan of action to enhance the faculty members' competency and integration of ICT in instruction.

The study was conducted in Dagupan City, Philippines during the second semester of the academic year 2011-2012. Two hundred forty-six faculty members from selected higher education institutions in Dagupan City were the subjects of this research. A questionnaire was used to determine the faculty members' demographic profile, and levels of competency and integration of ICT in instruction.

Proper statistical tools were employed in the analysis of data gathered to obtain valid results. The profile variables of the respondents were predominantly presented using frequency counts and percentages. The levels of ICT competency and integration were obtained by getting the average weighted mean, while the Pearson Product-Moment Correlation was applied to test the hypotheses of the study. The hypotheses were tested in their null form at the 0.05 level of significance. In order to facilitate fast and efficient processing of data, the Statistical Package for the Social Sciences (SPSS 14) software was used.

## 3. RESULTS AND DISSECTION

Based on the data gathered, the following significant findings are hereby presented.

1. Out of the 246 respondents, the female faculty members made up 68.3 percent of the population while the males represented 31.7 percent. There were more female teachers employed by higher education institutions in Dagupan City.
2. A large number of the faculty members comprised the very young group. Thirty-four percent belonged to the 20-29 age groups. Another thirty-one percent reported that they were 30 to 39 years of age. The rest of the population consisted of those whose ages ranged from 40-49 (20.3%); 50-59 (10.6%); and those over 59 years (3.7%).
3. Most of the faculty members were without a master's degree. Fifty-six percent were bachelors' degree holders; 35.8 percent had completed their master's degree; while 8.1 percent were doctorate degree holders.
4. Forty-four percent were those who had 1 to 5 years of teaching experience, while 20.7 percent reported that they possessed 6-10 years of experience. A small proportion of the population comprised of those who had gained 11-15 (10.6 percent), 16-20 (10.2 percent), and over 20 years (14.2 percent) of teaching experience. A large percentage of the faculty members were novice in the teaching profession.
5. The largest percentage or 31.3 percent of the faculty population came from the Humanities, Arts, and Sciences Department, 24.4 percent made up the Health Clusters; 20.3 percent were from the College of Business Education; 16.7 percent specialized in the field of Engineering Technology; 4.5 percent were from the College of Teacher Education; and 2.8 percent comprised the College of Criminology.
6. Along the four competency domains, the faculty members were highly competent in key areas involving technology operations and concepts, and those that dealt with social and ethical use of ICT. In contrast, their levels of ICT competency along the pedagogical and professional domains were only on the moderate level. The faculty members possessed the necessary level of knowledge and competence in using common computer applications and were responsible ICT users.

7. The overall average weighted mean on the faculty members' level of ICT competency was 3.39. The faculty members were generally moderately competent in using ICT tools.
8. Word processing, power point presentations, sending and receiving emails, searching and browsing the internet for instructional purposes were the most highly integrated ICT applications by the faculty members. The least integrated applications were interactive technologies, computer aided instruction, and the use of synchronous and asynchronous communication tools.
9. The overall average weighted mean on the faculty members' level of ICT integration in instruction was 3.26. Their level of integration was generally moderate. The moderate level of integration was reflective of their competency skills.
10. ICT competency was not associated with sex, educational qualification, and teaching discipline; whereas, the age and number of years of teaching experience of the faculty members were significantly related to their level of ICT competency. There was moderate negative correlation that existed between the variables. The ICT competency of an individual was inversely related to the age and teaching experience. Younger faculty members and those with fewer years of teaching experience were more competent in using ICT tools in instruction than their senior counterparts.
11. The findings indicated that the profile variables that affected the teacher's ICT competency were also the same factors that may affect their level of ICT integration in instruction. Sex, academic qualification, and teaching discipline did not have an impact on the teachers' ICT competency; whereas, the age and number of years of teaching experience of the faculty members were significantly related to their level of ICT integration. Moderate negative correlations or substantial relationships existed between the variables. The level of ICT use of an individual was inversely related to the age and teaching experience.
12. A positive high correlation or mark relationship existed between the level of ICT integration and

each of the four competency domains. The four competency domains: technology operations and concepts, social and ethical, pedagogical, and professional, were significantly related to the teachers' use of ICT in instruction.

#### 4. CONCLUSIONS

Based on the results and findings of the study, the following conclusions are drawn.

1. Majority of the faculty members are females, relatively very young, holders of bachelors' degree, are novice in the teaching profession and come from the Faculty of Basic Studies.
2. The faculty members are moderately competent in the use of ICT as teaching tools as well as in their integration of ICT in instruction.
3. Word processing, power point presentations, sending and receiving emails, searching and browsing the internet for instructional purposes are the most commonly integrated ICT applications by the faculty members; while authoring technologies, computer aided instruction and the use of synchronous and asynchronous communication tools are the least integrated.
4. The faculty members' level of ICT competency is a predictor of their level of integration in instruction. ICT competency is positively correlated to the integration of ICT tools in teaching.
5. Sex, educational qualification, and teaching discipline of the faculty members are not associated with their levels of ICT competency and integration.
6. The faculty members' age and number of years of teaching experience are predictors of their levels of ICT competency and integration of ICT tools in instruction. Age and years of teaching experience are inversely related to the teachers' ICT competency and integration levels.
7. A proposed ICT action plan is necessary to enhance the faculty members' levels of ICT competency and integration of ICT tools in instruction.

## 5. RECOMMENDATIONS

The following recommendations are made based on the conclusions presented.

1. Higher education institutions should create a faculty development program that would enhance the faculty members' ICT competency and enable them to integrate ICT tools in their teaching and specific curriculum areas.
2. School administrators should provide the necessary infrastructure, technical support, proper leadership, time, and promote access to available facilities to encourage teachers to integrate ICT in instruction.
3. School administrators should tap faculty members who possess very high levels of ICT competency and integration to act as mentors in assisting the other faculty members in improving their skills and use of ICT in instruction.
4. Conduct ICT competency trainings and strategic planning for ICT integration to school administrators. Conducting such will ensure that they can offer proper guidance and assistance to their teachers.
5. Include faculty member's competency skills on ICT integration as one of the particular areas for evaluation in the accreditation of schools.
6. A similar study should be replicated in two to three years on the higher education faculty population. This study could also be replicated in other professional organizations, state colleges and universities.

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