

ATTITUDES OF EDUCATIONAL MANAGERS AND TEACHERS TOWARD INFORMATION AND COMMUNICATION TECHNOLOGY UTILIZATION IN THE CLASSROOM

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ABSTRACT

The study determined the attitude of educational managers and teachers towards ICT utilization in the classrooms of HEIs in the province of Capiz. Specifically, it determined the profile of HEIs, the profile of educational managers and teachers, their skills in the use of ICT, the extent of utilization in the classrooms, the differences of their attitude towards ICT utilization, the relationship of their ICT skills and attitudes towards ICT utilization, and identifies the problems encountered in ICT utilization in the classroom. One hundred seventeen (117) educational managers and 242 teachers of HEIs responded to survey questionnaire. Frequencies, percentages and means were used to create profiles, while t-tests and chi-squares were used to test for the significance of the differences and the relationship of attitudes and skills. FCU had the biggest enrolment and number of ICT facilities, while CPC had the largest number of courses offered. Educational managers and teachers were mostly 46 years old or older, female and professors, with 26 years or more of seniority, had finished education-related courses, with doctorate degrees, but only had local ICT trainings.

HEIs offered educational courses which utilized ICT, and teachers in major subjects frequently used computers for encoding and cellphones for communication among peers. Both groups of respondents had positive attitudes towards ICT utilization in the classroom. There were differences noted on their attitudes towards ICT utilization and their skills in the use of technology. Relationships were noted between their skills and attitudes. Educational managers were more supportive in the use of ICT than were teachers, both groups however encountered similar problems in technology utilization.

Keywords: Attitude towards ICT, ICT Utilization in the Classroom, Attitude of Educational Managers and Teachers

INTRODUCTION

The world is fast becoming a global village as a result of the development in information and communication technology (ICT). The key instrument in this globalization is the computer. Computer mediated communication is increasingly becoming the fact of everyday life, particularly in the developed and some developing countries. In these countries, information and communication technologies have changed how people live, work and play (Berenfeld, 1999). Education is not left out in this wave of change. Most of the developed countries have exploited the potentials of ICT to transform their educational landscape at the tertiary, secondary and even

primary school levels particularly the instructional process (Kosakowski, 1998). Generally, ICT holds out the opportunity to revolutionize pedagogical methods, expand access to quality education, and improve the management of the educational system.

The use of information and communication technology in higher education has increased substantially over the past several years. ICT provides students and teachers with unprecedented opportunities to transform the teaching - learning process from the most common and simple strategies to the most sophisticated ones. Educators are readily embracing the challenges of integrating the technology into their teaching. However, authors and educators still question whether its use has positive impacts on the learning process. Research is beginning to focus more on the evaluation of the use of the technology, but results remain inconclusive (Sulla, 1999, in Draude, 2001).

In the Philippines, a number of Higher Education Institutions (HEIs) have already begun or, at the very least, are on the brink of fully using information and communication technology (ICT) in their curricula. Most, however, continue to lag far behind. The use of new technology in education continues to be an exception rather than a norm, and the danger remains that key higher education officials perceive ICT as a “bonus,” not a necessity.

The use of ICT in teaching and learning in the province of Capiz is still at its infant stage. This situation implies that, because of the relative novelty of ICT in education, no statistical data on the actual pervasiveness and level of use of ICT among HEI’s are available. Currently, only a small number of HEIs have the capacity to incorporate ICT tools in the delivery of educational processes. Some institutions are willing to use ICT in education, others are adamant on the actual use of ICT as an aid in teaching and learning. The inability of many HEIs to use ICT resources limits the attraction and opportunity for the faculty themselves to invest time and effort in learning ICT as an instructional aid.

The teachers are not the only ones to effect all the innovations needed in the school. Educational managers too, have a role in creating the right kind of atmosphere for innovations and changes (Ornstein, 1990, in Atog, 2000).

Adaptability and sensitivity to change in a school organization, or any other group for that matter, depends upon the attitude of the head and members of the organization. If the educational system has to survive, it should meet the existing demand for development. Thus, school administrators and teachers should be change-oriented.

Such educational situations, though crucial, but have been taken for granted. Thus, the researcher decided to conduct this study to determine the attitude of educational managers and teachers towards information and communication technology utilization in the classroom.

Statement of the Problem

Generally, the study sought to find out the attitude of educational managers and teachers towards ICT utilization in the classroom.

Specifically, the study sought to answer the following inquiries:

1. What is the profile of the different HEIs in Capiz in terms of enrolment, courses offered, faculty size, number of available ICT facilities and number of ICT facilities used in the classroom?
2. What is the demographic profile of educational managers and teachers in HEIs in Capiz in terms of age, gender, civil status, academic rank, length of service, course

- taken, educational attainment, subject taught, number of preparation, and in-service training related to ICT?
3. What ICT skills do educational managers and teachers in HEIs in Capiz possess?
 4. What courses/subjects offered in the different HEIs in Capiz are taught using ICT facilities?
 5. What is the extent of ICT utilization in the classroom?
 6. What is the attitude of educational managers and teachers towards ICT utilization in the classroom?
 7. Is there a significant difference between the attitude of educational managers and that of teachers towards ICT utilization in the classroom?
 8. Is there a significant relationship between the ICT skills and attitude of educational managers and those of teachers?
 9. What are the problems encountered by the educational managers and teachers of HEIs regarding the use of ICT in the classroom?

Theoretical Framework

The present study was anchored on **Skills Theory** of Kurt Fischer (1980), **Theory of Attitude** of Davis Foulger (1979), and **Diffusion and Innovation Theory** of Everett M. Rogers (1995).

Skills Theory

The basic unit of analysis for representing individual action, thinking and feeling is the concept of skill. A skill refers to an individual's capacity to control elements of behavior, thinking, and feeling within specified context and within particular task domains. As such, a skill is a type of control structure. It refers to the organization of action that an individual can bring under her own control within a given context. A skill is not simply an attribute of an individual. Instead, a skill is a property of an individual-in-a-social-context. The production of such, a change in the context in which a given act is performed can result in changes in the form and developmental level of the skill in question. In this way, context plays a direct role in the construction of skilled activity (Fischer, 1980).

Theory of Attitude

Attitude is defined as "a learned predisposition to respond in a consistently favorable or unfavorable manner with respect to a given object" (Leckenby, 2000). People learn these attitudes over time by being exposed to the object directly or through receiving information about the object. Our learned attitudes serve as general guides to overt behavior with respect to the attitude object, giving rise to a consistently favorable or unfavorable pattern of response.

Theories of attitude have generally constructed attitudes out of cluster of belief. Although attitude is best treated as a derived term within a theory of attitude, treatment of belief as a root term to such a theory leaves something to be desired, especially when attitudes are examined from the perspective of information processing (Foulger, 1979).

The very idea of examining attitudes from the perspective of human information processing suggests that information is a root term for attitude theories. If attitudes do reflect our experience of the world, it is reasonable to expect that it is from that experience, from the information we have concerning an attitude object, that we construct attitude. Even if this were not true, moreover (and it is hard to imagine it not being), the attitude itself is information (Foulger, 1979).

According to Foulger (1979), attitude is an independent measure of affect for or against the attitude object, which is a function of belief strength and evaluative aspect associated with each attribute. He drew his support for this proposition from behavioral learning theory. Simply stated, his contention was that an attitude toward an object is more or less automatically learned as one learns about the object itself.

Diffusion of Innovation Theory

Rogers (1995) is the best-known scholar in the area of diffusion research. His book, *Diffusion of Innovations* (4th ed.), is the most often cited work dealing with diffusion. As he points out, diffusion is not a single, all-encompassing theory. It is several theoretical perspectives that relate to the overall concept of diffusion; it is a meta-theory. Diffusion is the process by which an innovation is adopted by members of a certain community. There are four factors that influence adoption of an innovation. These include 1) the innovation itself, 2) the communication channels used to spread information about the innovation, 3) time, and 4) the nature of the society to whom it is introduced (Rogers, 1995). The work of Ryan and Gross (1943) in rural sociology is cited as the beginning of diffusion research. They used interviews as their main method of data collection. This has been a trend in diffusion research since. Rogers (1995) explains that there are four major theories that deal with the diffusion of innovations. These are the innovation-decision process theory, the individual innovativeness theory, the rate of adoption theory, and the theory of perceived attributes.

METHODOLOGY

This provides information as to the description of sampling procedures, the variables used, the data gathering techniques, the instrument and the statistical procedure employed in the treatment of data.

Research Design

The descriptive method of research was used. The descriptive research method is designed to investigate and analyze facts relevant to the attitude of educational managers and teachers. According to David (2002), the descriptive type of study finds answers to the questions who, what, when, where and how. This type of research describes a situation or a given state of affairs in terms of specified aspects or factors.

An explanatory study goes beyond description of the problem or situation. It attempts to explain the possible factors related to a problem or situation, which have been observed in a descriptive study. This type is of research in which the researcher investigates the relationship between factors or variables. Certain factors or variables are assumed to explain or contribute to the existence of a problem or a certain condition in a given situation.

Place of the Study

This study was conducted in nine higher education institutions in the province of Capiz, namely: Colegiodela Purisima Concepcion, Dean Alberto Villarruz College, Filamer Christian College, Hercor College, St. Anthony College of Roxas, Sta. Maria Mater et Regina Seminarium, Capiz State University – Roxas City, Pontevedra and Mambusao Units.

RESULTS AND DISCUSSIONS

Profile of HEIs

The biggest number of enrolment came from Filamer Christian College. Colegio de la Purisima Concepcion has the most number of courses offered. Filamer Christian College has the greatest number of faculty, the most number of ICT facilities available and utilized in the classroom.

Profile of Educational Managers

Most of the educational managers were 46 years and above, female and married. Majority has academic rank of Professor and has been serving the institution for 26 years and above. Thirty-nine finished education-related courses and mostly has doctoral degrees. Majority has taught major subjects with 1-2 subject preparations. Most of them attended local ICT related trainings, but no regional and national training in ICT

Profile of Teachers

Majority of the teachers had ages between 36-45 years, female and married. Seventy-six were occupying an academic rank of Assistant Professors and seventy-five were Associate Professors. Almost one-third was new in the service, mostly finished education-related courses and had master's degree. Forty-four percent were teaching general education subjects and had 3-4 subject preparations. Most teachers attended local ICT trainings, with no regional and national trainings related to ICT.

ICT Skills

As to basic skills, educational managers and teachers possessed an intermediate skill. In terms of intermediate skills, both respondents had similar intermediate skills. On the expert skills category, both respondents possessed beginner skills.

Courses/Subjects Offered with ICT Facilities

Majority of the HEI's offered BEED and BSED courses which utilized ICT facilities. Teachers in major subjects were the frequent users and computers were commonly used in the classroom.

Extent of ICT Utilization in the Classroom

The most commonly used ICT was the use of cellphone to communicate to students and co-teachers was dominant to both respondents. Surfing the internet and encoding handouts using MS Word was also utilized in the classroom.

Attitude towards ICT Utilization in the Classroom

Educational managers and teachers had positive attitude towards ICT utilization in the classroom

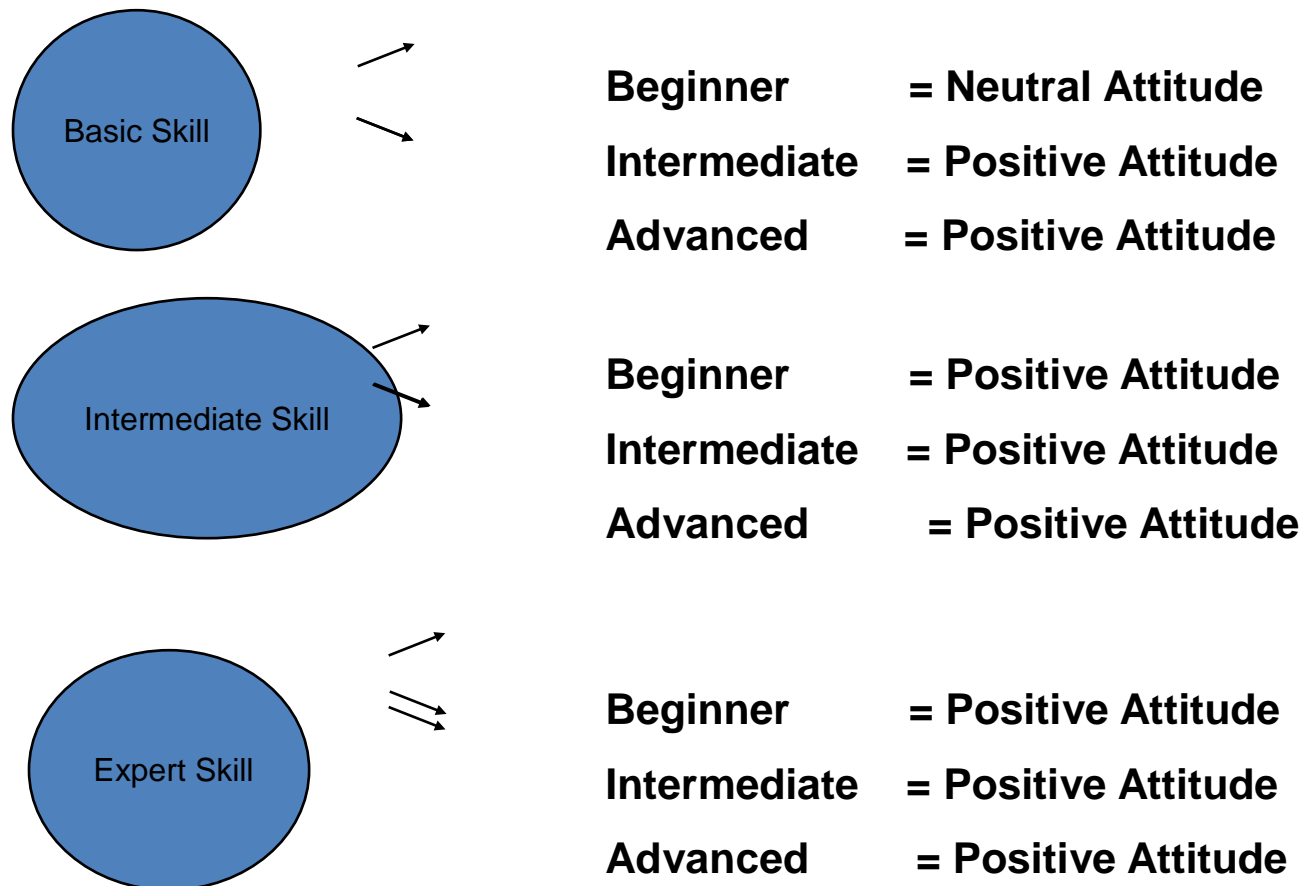
Differences between the Attitudes towards ICT Utilization in the Classroom

Significant difference is between the attitude of educational managers and teachers towards ICT utilization in the classroom on item number 2, 7, 8, 9, 10, 11, 13, 14, and 15.

Relationship between Skills and Attitude

ICT skills were related to attitude of educational managers and teachers. In basic skills, majority of those with beginner skills had neutral attitude, those with intermediate and advanced skills had positive attitude. In intermediate skills, those with beginner, intermediate and advanced skills had positive attitude. In expert skills, both beginners, intermediate and advanced had shown positive attitude.

Illustration of Relationship between Skills and Attitude



Problems Met

Educational managers' problems were as follows: No available computer, inadequate number of facilities, absence of technical support, limited time to prepare resources and not applicable to subject handled or office setting.

Teachers' problems include: No computer available, inadequate number of facilities and no skill/training related to ICT.

Conclusions

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

1. Private institutions has the biggest number of enrolment, courses offered, faculty size, number of ICT facilities available and utilized in the classroom.
- 2.a. The educational managers are in their middle age, females and married. Most of the teachers are in their mid 30's and early 40's, females and married.
 - b. The educational managers are occupying Professor 1-VI; with a long period of service in the workplace. On the other hand, teachers are occupying Assistant and Associate Professor positions and are new in the service.
 - c. The educational managers finished education-related courses and are doctoral degree holders. Teachers also finished education-related courses and are master's degree holders.
 - d. Educational managers taught major subjects with 1-2 or 3-4 preparations. Teachers taught general education subjects with 3-4 subject preparations.
 - e. Educational managers and teachers attended local ICT training, with no regional and national ICT related training.
3. Educational managers possess intermediate skills in basic, intermediate in intermediate category and beginner in expert skills. Teachers are intermediate in basic skills, intermediate in intermediate category and beginner in expert skills.
4. Education courses are the dominant course offered by both private and public institutions using ICT facilities.
5. Cellphone is the most common ICT facility that is often used by the respondents. In the classroom, surfing the internet and handouts preparation are frequently used.
6. Both respondents have shown a positive attitude towards the use of ICT facilities in the classroom.
7. Regardless of the skills possess, both respondents have manifested positive attitude.
8. The ICT skills have influenced the attitude of both educational managers and teachers.
9. There are a lot of problems met by both respondents; however, the most dominant problem is the unavailability of computer units, inadequate ICT facilities and absence of technical expert.

Recommendations

1. A feasibility study and or system analysis should be undertaken and focus on areas whose improvement could be administered.
2. Attendance to regional and national training related to ICT should be given budget appropriation to upgrade the technical skills of educational managers and teachers.
3. Educational managers should develop their basic skills, intermediate and expert skills. Ideally it is desirable to develop ICT skills of the teachers to the fullest.
4. A study be conducted to enhance the ICT facilities not only in education but also in other academic programs subject to availability of funds, people and other resources.

5. The educational managers should be provided with cellphone and/or load to enhance communication in the system. Teachers should encourage students to do assignments not only from the library books but also from the internet, to enhance knowledge.
6. The gap between educational managers and teachers' attitude should be look closely by the top level management. The ICT needs in the classroom, logistical support and technical requirements should be properly addressed.
7. Educational managers and teachers should form a committee and strategize on the optimum use of ICT for educational purposes.

LITERATURE CITED

- ALFONSO, A. 2000. Information Technology Education (ITE) in Higher Education Institutions (HEI's) in Olongapo City Vis-à-vis Government and Industry: An Analysis. Unpublished Dissertation. Columbian College, Olongapo City.
- ANDERSON, S. 2005. Computer Integration in the Classroom. <http://www.steinhardt.nyu.edu/media-tech>
- AQUINO, G. 1989. Educational Administration Theory and Practice. Rex Printing Company, Inc. Quezon City.
- APQC, 1999. American Productivity and Quality Center: Today's Teaching and Learning: Leveraging Technology. New York Press.
- ATO, J. 2000. Attitudes of Administrators and Teachers in Mandaluyong towards Educational Innovation. Unpublished Dissertation. Rizal Technological University. Mandaluyong City.
- BAIS, R. 2005. Attitude towards Computer Utilization and Extent of Computer Use: Their Relationship to Student Achievement. Unpublished Thesis. West Visayas State University. Iloilo City.
- BERENFELD, B. 1999. Internet in our Classroom: Teaching Tomorrow's Skills for Tomorrow's World. Washington D.C.: The World Bank.
- BORROMEO, M.L. 2000. Intranet Implementation in Higher Education Institutions in Angeles City: A Status Evaluation. Unpublished Thesis. Angeles University Foundation. Angeles City, Pampanga.
- BOWER, D. et.al. 1995. Quantifying the Experience and Attitude of Teachers towards Computer Algebra System. Unpublished Research Paper presented to the International Symposium of Austrian Centre for the Didactics of Computer Algebra, Honolulu, USA.
- BRITISH EDUCATIONAL COMMUNICATIONS. 2003. Barriers and Enablers to Teachers' Use of ICT. http://partners.becta.org.uk/index.php.section=rh&catcode=_re_rp_03
- BROWN, J. A. (1991). Television "critical viewing skills" education. Major media literacy projects in the United States and selected countries. Hillsdale, NJ. Lawrence Erlbaum.
- BURKMAN, E. (1987). Factors affecting utilization. In R. M. Gagne (ed.) Instructional technology. Foundations. Hillsdale, NJ. Lawrence Erlbaum.
- DAVID, F.P. 2002. Understanding and Doing Research. A Handbook for Beginners. Central Philippine University. Iloilo City.
- DELLIT, J. 2001. Using ICT for Quality in Teaching-Learning Evaluation Process. Learning Federation Secretariat, Australian Education System Official Committee, Adelaide, South Australia.
- DONGUINES, D. 2005. Teachers' Difficulties in Teaching Science and Technology III and IV by Using Information and Communication Technology Integration in the Second Congressional District of Cotabato Province, School Year 2003-2004. Unpublished Master's Thesis. Central Mindanao Colleges. Kidapawan City.

- DRAUDE, B. 2001. Assessing the Impact of Technology on Teaching and Learning: Unpublished Dissertation. Middle Tennessee State University. USA.
- DUDERSTADT, J. 2002. Higher Education in Digital Age. Oryx Press. Westport. CT, USA.
- EISENBERG, M. AND JOHNSON, D. 2003. Learning and Teaching Information Technology: Computer Skills in Context. Media Center. University of Washington Information School. USA.
- FERRERO, S. 2000. Two Generations of Teachers Differences in Attitudes towards ICT. Published Research. Secco, Italy.
- FISCHER, K. 1980. The Primer on Dynamic Skill Theory. The DAJA System. Nevada. USA.
- FOULGER, D. 1979. Steps toward an Information-Based Theory of Attitude. International Communication Association. Philadelphia, PA.
- FRAYER, D. 1999. Creating Campus Culture to Support a Teaching and Learning Revolution. www.educause.edu/copyright
- GAVIN, D. 2002. How Should Administrators Support Teachers in the Integration of Technology? Published Paper. Educational Communication and Technology. University of Saskatchewan.
- HONG, K. 2003. Students' Attitude toward the Use of the Internet for Learning. Unpublished Thesis. University of Malaysia. Sarawak, Malaysia.
- JACOBSE, 2000. Information Skills for an Information Society. Clearing House on Information Research Resources. Albany, NY: New York Department of Education.
- KALU, I and EKWUEME, C. 2005. Assessment of Teachers' Level of Literacy and Attitude towards Information and Communication Technology Application in Science, Technology and Mathematics Education. Published Thesis. University of Calabar, Calabar, Nigeria.
- KOSAKOWSKI, J. 1998. The Benefit of Information Technology. <http://www.askeric.org;/thome/digest/edoir9804.html>.
- KOWCH, E. 2003. First Step in Creating a Leadership Road Map for Teaching and Learning Technologies in Your Knowledge Era School: A Policy Network and Community Approach. Published Research. University of Calgary. Canada.
- LECKENBEY, J. 2000. Theory In Persuasive Communication and Decision Making. ADV382. New York Academic Press. NY. USA.
- MCFARLANE, 1997. The Idea of Information Literacy in the Age of High Tech. Published Paper. Tompkins Cortland Community College, Dryden, NY. ED 282 537.
- MERRIAM-WEBSTER'S COLLEGIATE DICTIONARY. 2003. Eleventh Edition. Merriam Webster, Incorporated Springfield Massachusetts, USA.
- MULKEEN, A. 2000. The Impact of Teachers Skills on the Integration of ICT in Irish School. National University of Ireland, Maynooth, Ireland.
- OBSEQUIO, R. 2000. Computer Application in Tertiary Mathematics Teaching in CHED-Supervised Schools in Camarines Sur: A Portfolio Assessment. Unpublished Dissertation. Bicol University. Legaspi City.
- OSORIO, F. 2004. Computer Related Factors and Work Satisfaction among College Teachers. Unpublished Doctor of Education Dissertation. West Visayas State University. Iloilo City.
- PAGOSO, 1987. Introduction to Statistics. Quezon City: Rex Book Store Co.
- PAMPLONA, D. 2006. Institutional Capability in Relation to Shared Governance in Higher Education Institutions in Capiz. Unpublished Dissertation. Colegio de la Purisima Concepcion, Roxas City

- PHILIPPINES PRESS RELEASE.2006.DepEd Chief Pushes for More Resources for ICT in Basic Education. Sec. JesliLapus' Address to the 2nd National ICT's in Basic Education Congress. Waterfront Hotel, Cebu City. 09/06/06.
- RAJA, E. et.al. (2004) An Exploratory Study to Assess the Computer Knowledge, Attitude and Skills Among Nurses in Health care Setting of a Selected Hospital, Ludhiana, Punjab, India.
- RANGSIGUNPOOM, P. 2000. Effects of Computer-Aided Instruction and Attitude of Achievement in English Reading of Sophomore College Students at Rajabhat Institute Phetchaboon, Thailand.UnpublishedDissertation.Central Luzon State University, Muñoz, Nueva Ecija.
- REID, S. 2002. The Integration of ICT into Classroom Teaching. Published Research. University of Ottawa, Ontario, Canada
- REIGELUTH, C. M. (1987). The Search for Meaningful Educational Reform: A Third Wave Educational System. Journal of Instructional Development, 10(4), 3-14.
- RIESENKOENIG, M. 2003. Developing Human Resources for ICT and Electronic Services Infrastructure Improvement in the Philippines – A Dual System Approach for Technical Vocational Education and Training.UnpublishedThesis.University of Asia and the Pacific. Manila.
- ROBERTSTON, A and SOOPRAMAIN, D. 2005.ICT Penetration Rates and Attitudes towards Residential Internet Technologies in the United Kingdom.A Published Research.Lancaster University Management School. Lancaster, UK.
- RUTHVEN, K and HENNESSY, S. 2003. Incorporating Internet Resources into Classroom Practices: Pedagogical Perspective and Strategies of Secondary-School Subjects Teachers.PublishedThesis.University of Cambridge. UK.
- ROGERS, E. M. (1995). Diffusion of Innovations (4thed.). New York: Free Press.
- RYAN, B. & GROSS, N. C. (1943).The Diffusion of Hybrid Seed Corn in Two Iowa Communities. Rural Sociology, 8, 15-24.
- SAEZ, V. 2004.Validation of Instructional Materials Using PowerPoint Presentation in the Teaching of Congruence and Inequalities in Geometry.UnpublishedThesis.Eulogio "Amang" Rodriguez Institute of Science and Technology.Sampaloc, Manila.
- SAMUEL, 2006. The Utilization and Integration of ICT Tools in Promoting English Language Teaching and Learning: Reflections from English option Teachers in Kuala Langat District, Malaysia. University of Malaysia Press. Malaysia.
- SIBLEY, K. 2003. The Impact of Information Technology on Pedagogy in Higher Education.PublishedDissertation.University of Pennsylvania. USA
- SURRY, D. W. & FARQUHAR, J. D. (1997).Diffusion Theory and Instructional Technology. Journal of Instructional Science and Technology, 2(1), 24-36.
- UNESCO, 2004.United Nations Educational, Scientific and Cultural Organization Press Room, ICT in Education.UNESCO Bangkok, Thailand.
- VALDEZ, E. 2002. Multimedia versus Cooperative Learning Approach in Teaching Secondary Science Students, Academic Achievement, Scientific Attitudes and Scientific Interest. Unpublished Dissertation.University of Perpetual Help Rizal.
- WILLIAMS, D. et. al. (1998). Teachers' ICT Skills and Knowledge Needs: The Robert Gordon University. Scotland.
- ZEON, S. AND Lundeberg, M. 2001. Preparing Tomorrow's Teachers to Use Technology. Published Thesis. University of Wisconsin-River Falls.

Internet

www.ofcomconsumerpanel.org.uk/
www.onderzoekinformatie.nl site
www.ncrtec.org
www.sreb.org
www.genderwsis.org
www.unesco.org.com
www.elearningeuropa.infor.html
www.rgu.edu/uk
www.unescobkk.org/index.php
<http://hermes.iacm.forth.gr/ipetcco>