A STUDY ON ATTITUDE AND OPINION TOWARDS USING COMPUTER TECHNOLOGY IN TEACHING AMONG B.ED. TRAINEES IN TIRUCHIRAPPALLI DISTRICT

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ABSTRACT

The main aim of the study was to find out whether there was a significant difference in the attitude and opinion towards using Computer Technology in teaching among B.Ed., trainees in terms of select independent variables. Normative survey was the technique employed. Opinion towards Computer Usage and Attitude towards Computer Technology inventory developed by Karpaga Kumaravel. K. and Amulraj. A. (2013), was used for data collection. A stratified representative sample of 150 B.Ed. trainees of self-financed B.Ed. colleges in Tiruchirappalli district constituted the sample for this study. The major findings were there were significant differences in Attitude towards Computer Technology in teaching, between age group below 25 years and above 26 years, Under Graduates and Post Graduates and rural and urban localities.

Keywords: Attitude, Computer Technology, CAI, CALL.

INTRODUCTION

Technology in Education is very much essential to meet the global challenges. Students can use new technology as it becomes available, and often complete tasks more efficiently. When students use technology to complete a task correctly, they will probably use the same technology again in a similar situation. The learning must require the learner to do more than just read page after page. Requesting frequent responses and interaction keeps learners engaged. A picture or short video can say a lot more than words and also can hold learner attention. In the era of globalization, the explosion of technologies is impacting the world in more ways than it can be imagined. Throughout the 19th century, the concept of Educational Technology took a new meaning, as the capabilities of educational televisions, video conferencing, multimedia packages, and computer assisted instructions, e-learning, e-content, audio and video converged to create new media with enormous potential. Combined with the advances in hardware and software, these technologies are able to provide enhanced learning facility and with attention to the specific needs of individual users.

Background of the Problem

In the present scientific and technological age, the conventional teaching methods are not sufficient to arouse interest among the students nor do they meet the intellectual, psychological and emotional needs of the students in the new millennium. Traditional methods of imparting knowledge such as lectures, books and conference papers are characterized by a linear progression of information. Human minds are more inclined to using non-linear strategies for problem solving, representation, storage and retrieval of information.

When teaching is taken into consideration, the Internet provides teachers with unprecedented authentic materials, which is one of the key elements in school subjects. Students are able to access invaluable sources and materials in order to improve their subject learning skills. Therefore, the researcher investigates trainee teacher's knowledge about using Computer Technologies in classroom teaching.

Purpose of the Study

Now-a-days the classroom settings have changed tremendously with the help of technology based teaching-

learning process. The learners are literally called as generation Y learners, because they use lot of technologies in their day-to-day life. In this connection, the teachers and teacher trainees should equip their knowledge to use instructional technologies in Educational process. That's why the investigator has chosen this problem of study entitled "Attitude and opinion towards using computer technology in teaching among the B.Ed. trainees". The data were collected from a sample of B.Ed. trainee teachers who are studying in various self-financing colleges in Tiruchirappalli district.

Significance of the Study

In this millennium era, technology can make desirable changes or upgradation to all the disciplines such as health, management, food, industries, marketing, transport etc. In this regard, education should change its face from Gurukul system to smart classrooms, teacher-students to virtual media-self regulated learners. In this technological era, the satisfaction of students, require the synchronous mode of learning environment.

The changes may occur in both of teaching methods and learners, so the mediator like teachers can make the appropriate changes in their teaching competencies with the use of computer based technologies in the classroom. The computer based technologies can upgrade teacher's knowledge and their skills and it helps to lessen the work load of the teachers.

In this study, B.Ed. trainee teacher's attitudes towards Computer Technology in teaching are investigated through quantitative research methods. By employing B.Ed. trainee's actual use of computer technologies in educational practices, their levels of computer usage are examined elaborately.

Review of Related Literature

Web Based Review

Technology in India

National Task Force on Information Technology and Software Development (IT Task Force) constituted by the Prime Minister in July, 1998 made specific recommendations on introduction of Information & Technology in the education sector including Schools. The concept of SMART schools with Information Technology and use of skills and values are considered as important, in the next millennium, that gained momentum to be started on a pilot demonstrative basis in each state, with the provision of Computer Systems to all Educational Institutions upto Higher Secondary Schools by suitable investments (about 1-3%) of the total budget during the next five years, as per the recommendations of the Task Force.

A centrally sponsored scheme "Technology in School" was launched, in December 2004, to provide opportunities to secondary state students to develop Technology skills and for Technology-aided learning process as a major catalyst to bridge the digital divide amongst students of various socio-economic and other geographical barriers.

The scheme provided support to State/UTs to establish computer Labs on a sustainable basis and aimed at setting up SMART schools in Kendriya Vidyalaya and Navodaya Vidyalaya to act as: "Technology Demonstrators" and to lead in propagating Technology skills among students of neighborhood schools. The scheme is currently being implemented both in Government and Government aided Secondary and Higher Secondary Schools. Support is provided for procurement of computers and peripherals, Educational software, training of teachers, internet connectivity etc.

The financial assistance is given to State and other Institutions on the basis of the approvals accorded by Project Monitoring and Evaluation Group (PM & EG) headed by Secretary, Department of School Education and Literacy, Ministry of Human Resource Development. With main emphasis on computer literacy programme, the scheme serves to act as learning and teaching aid to make classroom learning more interesting and interactive. The emphasis is also being laid on self-learning aspect through initiatives like Gyan Darshan launched in January 2000, with three completely digital and round clock TV channels dedicated to Education. Gyan Vani, an FM radio channel was launched in November 2001, with different FM stations across the country.

Role of Technology in Education

Teaching and learning in the 21st century are different from

the earlier times, as teaching and learning are now occurring more in an online world. Traditionally, learning environments were presenting technology face-to-face where delivery was largely characterized by the posting of printed resources and communication were often slow and cumbersome. Integrating Technology into teaching-learning interaction has been found to transform the teacher's role from being the traditional 'Sage on the Stage' to also being a 'Guide on the side,' and students' roles also change from being passive receivers of content to being more active participants and partners in the learning process.

Role of Technology in School

As for the current state of education as noted by Deway (2001) almost one hundred years ago. *"From the standpoint of the child, the great waste in school comes from his inability to utilize the experience he gets outside…while on the other hand, he is unable to apply in daily life what he is learning in school. This is the isolation of the school-its isolation from life".*

Schools today are in the midst of great changes, which can be attributed to technological advances occurring in our world today, including access to an abundance of information, and advances in computers, the internet communications and networking. Prensky (2001), a New York author coined the term digital native to refer to these new learners born into a world of Technology as they think and act differently from students of the past who grew up without Technology.

Technology is starting to be seen as the driving force of progress and Education is promoted as a means to change from an industrial age to an emerging information age. Schools are under pressure to provide access to Educational Technology as quickly as possible. School is the nucleus of learning and epicenter for development of any society or nation. The secondary schools in India work in a variety of academic and social contexts. Providing schools with Technologies promises a high return on investment since Technology is a rapidly growing field in India.

Technologies have significant impact on the traditional school system. They have provided innovative opportunities for teaching and learning, and they have engendered advances in research about how people learn, thereby bringing about rethinking in the structure of Education. With the liberalization and globalization of Indian economy, the rapid changes witnessed in scientific and technological world and the general need to improve the quality of life and to reduce poverty, it is essential that, the school leavers acquire a higher level of knowledge and skills than what they are provided in elementary education. It is also necessary for improvement of vocational knowledge and skills at the higher secondary level to enable some students to be employable.

Technology and Teacher

According to Fullan (1991*), "Educational change depends on what teachers do and think. It is as simple and as complex as that."* In classrooms today, the role of the teacher needs to change from the traditional role of providing instruction to that of an orchestrator of learning – which necessitates the designing of Technology integrated classrooms promoting higher order cognitive skills.

Teachers are rich resources in the implementation of any innovation, for they bring with them rich practical know-hows for the classroom, for example, the Japanese lesson study approach has shown that classroom-based material developed jointly by teachers and external consultants provide resources that can be practically used in English lessons (Isoda, et al. 2007).

Teaching is becoming one of the most challenging professions in our society where knowledge is expanding rapidly and much of it is available to students as well as teachers at the same time. As new concepts of learning have evolved, teachers are expected to facilitate learning and make it meaningful to individual learners rather than just to provide knowledge and skills.

Modern developments in innovative technologies have provided new possibilities to teaching profession, but at the same time, have placed more demands on teachers to learn how to use these new technologies in their teaching.

Literature Based Review

Akbaba-Altun, S. (2006). Complexity of Integrating Computer Technologies into Education in Turkey

The findings of this study suggest that, there are too few computers, slow Internet connections, insufficient software in the native language, and a lack of peripheral equipment at schools. Investment in hardware and software is also mentioned by Casey (1995) and MacNeil & Delafield (1998) as technology integration issues. ICT investment is an important initial step as mentioned in the literature. The IT classrooms at schools were located in existing older classrooms that were not designed according to the needs of IT classrooms at schools. Future schools should be designed with adequate wiring, ergonomics and security required for IT classrooms.

Another finding of this study indicates that, in-service training courses for teachers are insufficient, especially in content areas. The participants indicate that, courses are given by unqualified trainers and are not geared towards preparing them as per their needs and levels. These in-service training courses also have a lack of hands-on activities and are not offered to the Principals of Schools and teachers. These issues were also similar to various studies related to staff development and professional development (see, Holland, 2001; Casey, 1995; Cooley, 2001; Swan et al., 2002; MacNeil & Delafield, 1998). Curriculum problems generally stem from the available software at schools. According to the findings in this study, these software were not considered to be suitable for the students' grade levels by the participants. One of the reasons may be that a much needed analysis was not conducted prior to sending these materials to schools. Moreover, the suggested curriculum for 4th to 8th graders is almost the same and upper grades do not build upon their knowledge. In addition, since software prices are relatively high, it is difficult for schools to purchase them. Except for English courses, other content teachers do not use multimedia software and videotapes.

The findings of this study suggest that integration of technology is not only an investment but also a human resource management issue. To conclude, policy makers need to develop and implement a comprehensive vision and mission in order to minimize problems and issues at school and national levels, especially in those countries with a centralized educational system.

Al-Asmari, A.M. (2005). The use of the internet among EFL teachers at the colleges of technology in Saudi Arabia

The purpose of this study was to investigate the use of the Internet by teachers of English as a foreign language (EFL) in Saudi Arabian colleges of technology. A secondary purpose was to explore the relationship of teachers' use of the Internet with a selected set of variables. These variables included EFL teachers' personal characteristics, their level of access to the Internet, their perceived computer and Internet expertise, and their perceptions of the Internet as a tool for instruction. This study derived its theoretical framework from Rogers' (1995) model of diffusion of innovations.

Both quantitative and qualitative methods were employed to collect data on the population. A questionnaire was developed and distributed to all EFL teachers (N = 203) in the four main colleges of technology in Saudi Arabia (located in Riyadh, Abha, Jeddah, and Dammam) during the 2004-05 academic year. Validity and reliability were established for the survey instrument. The return rate of the survey was 81%. The survey stage was followed by phone interviews with a random sample of 15 teachers.

Results from both the quantitative and qualitative domains of the study indicated that the participants had rarely used the Internet, particularly for instructional purposes. Indeed, they reported more use of the Internet for personal than for instructional purposes. Participants had high levels of Internet use in mainstream Internet services such as e-mail and the World Wide Web. While they had positive perceptions of the use of the Internet as a pedagogical tool, they had relatively limited levels of access to and expertise with computers and the Internet. Positive correlations existed between teachers' level of use of the Internet and five independent variables, including computer and Internet expertise, place of access to the Internet, perceptions of the Internet, computer experience, and Internet experience. Multiple regression analysis indicated that only expertise, place of access, and Internet experience had a significant predictive value of teachers' use of the Internet. The results indicated that approximately 39% of the variance in Internet use was explained by the independent variables included in this study.

A major conclusion of the study was that to increase Internet use, EFL teachers need to be given more Internet training. In-service training needs to be a top priority, with a primary focus on using the Internet as a tool for teaching and learning. Also, based on the study's findings, it was recommended that policy-makers maintain EFL teachers' positive perceptions of the pedagogical use of the Internet by spending more money on increasing the computer infrastructure in the colleges of technology in Saudi Arabia, on improving Internet access and services, and on educating both teachers and students with respect to issues concerning the cultural appropriateness of materials available on the Web.

Blake, R.J. (2007). New trends in using technology in the language curriculum. Annual Review of Applied Linguistics

Blake (2007) points out that the most serious barrier to successful integration of technology into the language curriculum is teachers' lack of background and experience with utilizing technology and their inability to perceive its capabilities.

As Blake (2007) shows in a recent article, teacher training has become one of the new and growing themes in CALL research; this collection and the preceding symposium at AILA also bear witness to this.

In the field of language teaching this is directly related to the role that technology plays in supporting language development (Blake 2007; Salaberry 2001).

In computer mediated activities and what is referred to as telecollaboration, the language to be appropriated may be used for purposeful, communicative purposes that imply exchanges with other learners or native speakers of the language in question. Communicating students will act "as agents which coconstruct not only shared meanings, but also their own roles within a bilingual chat community" (Blake, 2007, p78). All too often, however, the stalling of ITC in the curriculum is attributed to lack of experience or stubborn conservatism on the part of teachers (Blake 2007, p. 76).

Chen, Y. (2008). A mixed-method study of EFL teachers' Internet use in language instruction: Teaching and Teachers Education

Information and communication technology has affected language instruction in Taiwanese higher education. Varieties of assorted Internet tools are incorporated in Educational settings to engage students in learning. To facilitate the improvement of teacher preparation for Internet use, it is important to study the factors influencing teachers in integrating the Internet into their instruction. A concurrent mixed-method approach is employed in this study. Both quantitative and qualitative results show that teacher training is crucial for Internet-integration instruction by the teachers of English as a Foreign Language (EFL) in Northern Taiwanese Higher Education institutions. Continuous professional development focused on technology application in language instruction is imperative.

Ertmer, P. A. (2005). Teacher pedagogical beliefs: The final frontier in our quest for technology integration

The findings of the study showed that although the conditions for successful technology integration finally appear to be in place, including ready access to technology, increased training for teachers, and a favorable policy environment, high-level technology use is still surprisingly low. This suggests that additional barriers, specifically related to teachers' pedagogical beliefs, may be at work. Previous researchers have noted the influence of teachers' beliefs on classroom instruction specifically in math, reading, and science, yet little research has been done to establish a similar link to teachers' classroom uses of technology. In this present article, the author argues for the importance of such research and presents a conceptual overview of teacher pedagogical beliefs as a vital first step. After defining and describing the nature of teacher beliefs, including how they are likely to impact teachers' classroom practice he describes important implications of teacher professional development and offers suggestions for future research.

Garrett, N. (1991). Technology in the service of language learning: Trends and issues

The findings of the study shows current uses of technology to facilitate the teaching and assessment of second languages. In this article, the author discusses the changes that have taken place over the last 18 years regarding

selected topics from the 1991 article, including the relationship between pedagogy, theory, and technology, physical infrastructure, efficacy, copyright concerns, categories of software (e.g., tutorial, authentic materials engagement, communication uses of technology), and evaluation. The author then explores the most challenging issues facing Computer-Assisted Language Learning (CALL) scholarship and practice today, that is, new demands in language education (based on the conclusions of the 2007 report of the Modern Language Association (Jackson & Malone, 2009), the need to rethink grammar instruction, online learning, social computing, teacher training and professional development, and CALL research. Like the original 1991 article, this work contains an appendix with links to information resources for CALL research and practice. The author concludes by saying that new initiatives are needed to promote the use of technology for research on CALL and for facilitating second language acquisition, such as support for institutional language centers, streamlining of the work of professional organizations dedicated to CALL, and the establishment of a national CALL center.

Gray, L. S. (2005). An enquiry into continuing professional development for teachers

Throughout the research, it was clear that time, money and teacher enthusiasms are all valuable resources as far as professional development is concerned. These resources are limited, however, and need to be carefully handled, if professional development is to be anything other than a token gesture.

Recent research into the allocation of time within Education suggests that since the 1988 Education Act, Conservative and Labor Governments have developed policies that result in greater control of teachers' time and limits to their professional autonomy. Limited time for subject-based professional development implies that many teachers are increasingly directed towards fairly instrumental, information-led training, such as briefings on examination syllabi. This training turns into a school development plan, which is controlled by Government objectives and priorities.

Such highly directed activity is in contrast to professional development that allows teachers to engage with their subjects on a personal level, as 'reflective practitioners', constantly renewing and refreshing their own knowledge and perspectives on education. An example of this might be studying for a master's degree, which teachers usually carry out using their own resources, as described previously. This type of activity allows teachers to develop their own identities as educators. It allows them to build their own understanding of what constitutes high quality teaching, and to make their own judgments about what should be taught, and how it should be delivered.

This style of highly personalized training is occasionally seen as self-indulgent, as evidenced by quotes given earlier. Yet, considering the current Government quest to individualize learning in the classroom through careful use of differentiated teaching, this attitude seems self-contradictory. Many teachers and head teachers spoke of the need to lead by example, applying solid classroom principles to the provision of professional development activities. Sadly, many reported that this does not always happen.

Teachers are required to navigate a disjointed maze of provision that is of varying quality. In many cases, the higher levels of professional development can only be achieved through self-funded study, which puts it out of the reach of many teachers. Out of reach efforts on the part of groups such as specialist schools and advanced skills teachers are viewed as erratic and inconsistent. The desire to build networks and learning communities is often stymied by the pressures of teacher work load. Therefore, unsurprisingly, a significant de-motivating factor amongst teachers appeared to be inequalities in provision for subject-based professional development opportunities. For this reason, perhaps more than any others, an effective review of professional development opportunities are long overdue.

Harvey, J., & Purnell, S. (1995). Technology and teacher professional development. Report Prepared for the Office of Educational Technology, U.S. Department of Education

The overwhelming sense of the meeting was that current professional development is shallow, both in the definition and delivery. The basics for professional development are not in place. Several attendees called for a basic review of

what people know about professional development, including emerging definition changes, and how new technologies might fit in.

Moreover, participants repeatedly named time as the most common barrier to change. The Education system as currently structured does not pretend to make available to teachers the amount and kind of time needed to develop professionally. Time not spent in front of class is considered somewhat wasted.

Hermans, R., Tondeur, J., Van Braak, J. and Valcke, M. (2008). The impact of primary school teachers' educational beliefs on the classroom use of computers

For many years, researchers have searched for the factors affecting the use of computers in the classroom. In studying the antecedents of Educational computer use, many studies adopt a rather limited view because only technology-related variables, such as attitudes to computers and computer experience were taken into account. This study centers on teachers' Educational beliefs (constructivist beliefs, traditional beliefs) as antecedent of computer use, while controlling for the impact of technology-related variables (computer experience, general computer attitudes) and demographical variables (sex, age). In order to identify differences in determinants of computer use in the classroom, multilevel modeling was used (N = 525). The present article supports the hypothesis that teacher beliefs are significant determinants in explaining why teachers adopt computers in the classroom. Next to the impact of computer experience, general computer attitudes and gender, the results show a positive effect of constructivist beliefs on the classroom use of computers. Traditional beliefs have a negative impact on the classroom use of computers.

Kessler, G. (2007). Formal and informal CALL preparation and teacher attitude toward technology

This study suggests that there is a general lack of a Computer-Assisted Language Learning (CALL) presence in teacher preparation programs. There is also evidence that teachers obtain a majority of their CALL knowledge from informal sources and personal experience rather than through formalized preparation. Further, graduates of these programs are generally dissatisfied with the little training that they do receive. The literature suggests that reliance upon this kind of preparation may not best serve pedagogical needs due to distinctions between personal and pedagogical uses of technology. Consequently, it is important to gain more insight into the role of CALL within teacher preparation. A web-based survey was completed by 108 graduates of Teachers of English to Speakers of Other Languages (TESOL) Master's degree programs. The study concluded that informal CALL preparation is closely linked to teachers' attitude toward technology while formal CALL teaching preparation is not. Among these, TESOL professionals appear to be confident about CALL overall, but they are not confident when creating CALL-based materials. They are also less confident when making decisions regarding the integration of CALL, particularly in addressing aural/oral skills.

Lee Tennent. (2003). conducted a study on Multimedia: Perceptions and use in Pre-service Teacher Education

The research was conducted in two phases using a repeated cross - sectional longitudinal design. Phase one of research conducted in 1997 and phase two in 2002 questionnaires were used to gather data. The sample consist of 43 academic staff members, 72 graduated teachers from these course for phase I and 40 academic staff member, 123 graduated teachers for phase II. The result of this study reveals the first phase of research that both academic staff and new teachers made little use of technologies in their teaching and the second phase of research had been considerable increase in knowledge and confidence levels in relation to the technologies.

Patel, J. A. (2009). Development and Implementation of CAI to teach English grammar to standard VIII student in different modes

Findings of the study revealed the following: (i) The achievement of the students in English Grammar taught through Computer Assisted Instruction (CAI) was found significantly higher than that of the students taught through traditional method. (ii) The achievement of the students taught through only CAI was found significantly higher in English Grammar than that of the students taught through traditional method. (iii) The achievement of the students

taught through CAI with repetition and CAI with Discussion was found significantly higher than the achievement of the students who were taught through traditional method. (iv) From the three modes of the presentation of this CAI, the mode i.e. teaching through CAI with discussion was found significantly superior in comparison to other two modes. (v) CAI was also found to be effective in terms of the students.

Scheffler, F.L. & Logan, J.P. (1999). Computer technology in schools: What teachers should know and be able to do

This study identified computer competencies important for teachers. A Delphi panel developed a survey instrument of 67 computer competencies. Fifteen of these competencies related to Networks, Internet, and e-mail. Survey responses came from 437 Technology coordinators, Teacher Educators, and Secondary Teachers. The most important computer competencies dealt with integration of computers into curricula and using computers in instruction. The use of networks and the Internet for research and the use of e-mail were rated important, but ranked 22nd and 23rd in the list of 33 competencies that were rated Important or Very Important.

Suwana, R. (2004). Effectiveness of Computer Assisted Instruction for Primary School Students: An Experimental study

Findings of the study revealed the following: (i) The study has resulted in the development of Computer Assisted Instructional Program on selected five units of Thai subject learning for the students of Pratom-3 and five units of Thai subject learning for the students of Pratom-6. (ii) The Computer Assisted Instruction developed by the investigator was found significantly effective in learning five topics of Thai subject to the student of Pratom-3 of experimental group – I belong to Buriram Kindergarten (t-value 8.62) (iii) The Computer Assisted Instruction developed by ONPEC was also found significantly effective in learning five topics of English subject to the students of Pratom – 3 of Experimental group – I belong to Buriram Kindergarten (t- value 8.60). (iv) On comparison of mean gain scores obtained for CAI developed by ONPEC in English subject with CAI developed by the investigator in Thai subject, the obtained t-value is 1.18 (v) The Computer Assisted Instruction developed by the investigator was found significantly effective in learning five topics of Thai subject to the students of Pratom-6 of experimental group-II belong to Buriram Kindergarten. (vi) It was evaluated by teacher as a successful attempt. (vii) Opinion of students was found effective in presenting all the five topics of English and Thai subject.

Underwood, J. (1984). Linguistics, Computers, and the Language Teacher: A Communicative Approach.

This study analysis the state of the art of computer programs and programming for language teaching that has two parts. In the first part, an overview of the theory and practice of language teaching, Noam Chomsky's view of language, and the implications and problems of generative theory are presented. The theory behind the input model of language acquisition is examined, and communicative approaches to language teaching are described and analyzed. In part two, concerning language teaching and the computer, the following topics are covered: (1) the analogy made between computers and the language laboratory regarding the use and misuse of technology; (2) the history and state of the art of computer assisted language learning (CALL); (3) the computer as a communicative environment in the present and future; (4) artificial intelligence and CALL, with analysis of an example; and (5) getting started in CALL, including an overview of general-purpose programing languages, computer-assisted instruction authoring languages, foreign language authoring systems, and ready-made courseware. An appendix lists print resources about computer use, and lists of references concerning linguistics and language teaching and computers and language teaching are also included.

Vandana. (2007). Teacher's Attitude towards Computer use Implications for emerging Technology Implementation in Educational Institutions

The purpose of this study was to determine the attitudes of school teachers of Chandigarh towards use of computer Technology for instructional purpose.

The findings of the study revealed the teachers possessed fairly positive attitude towards computer uses but majority of the teachers need to be provided training for using computers in instructional settings.

Warschauer, M. (1997). Computer-mediated collaborative learning: Theory and practice

The findings of the study: Online communication is text-based and computer-mediated, many-to-many, time and place Independent, usable across long distances, and distributed via hypermedia and provide an impressive array of new ways to link learners. When viewed in the context of sociocultural learning theory, which emphasizes the Educational value of creating cross-cultural communities of practice and critical inquiry, these features, make online learning a potentially useful tool for collaborative language learning.

However, as pointed out by Schwartz (1995), when evaluating Computer-Assisted Language Learning, it is important to distinguish potential from reality. First, computer-mediated activities can be used to reinforce traditional "transmission" approaches to teaching and learning as well as collaborative approaches. Second, as Cuban (1986, 1993) has demonstrated, even when educators intend to implement technology-based innovations, they are largely constrained by institutional and societal expectations, with the result that technologies seldom have the transformational effect intended, especially when used with language and ethnic minority students.

A broad research agenda is required to gain a better understanding of the social, affective, and cognitive processes involved in computer-mediated collaborative learning. This research will help researchers to improve classroom practice and deepen the general theoretical understanding of collaboration and social interaction for language learning.

Wozney, L., Venkatesh, V. and Abrami, P. (2006). Implementing computer technologies: Teachers' perceptions and practices.

This study investigated personal and setting characteristics, teacher attitudes, and current computer technology practices among 764 Elementary and Secondary teachers from both private and public school sectors in Quebec. Using expectancy value theory, the Technology Implementation Questionnaire (TIQ) was developed; it consists of 33 belief items grouped under three broad motivational categories: perceived expectancy of success, perceived value of technology use, and perceived cost of technology use. In addition, teacher demographics, teachers' current uses of technology, and availability of resources were also surveyed. The study found that: (a) expectancy of success and perceived value were the most important issues in differentiating levels of computer use among teachers; (b) personal use of computers outside of teaching activities was the most significant predictor of teacher use of technology in the classroom; and (c) teachers' use of computer technologies was predominantly for "informative" (e.g., World Wide Web and CD-ROM) and "expressive" (e.g., word processing) purposes. Results are interpreted in light of the extent to which the expectancy-value model can explain the variation in teacher beliefs related to computer technology use. As a heuristic, the core of our model of technology use reduces to a simple teacher motivation "equation": (.39 ' Expectancy) + (.15 ' Value) - (.14 ' Cost) = Technology Use.

Zari Javari's. (2004). Research attitude of University teachers towards the internet Technology is a study conducted on Indian Higher Education Level. It is focused around the attitude of University teachers towards the role and impact of computer and internet Technology use in Higher Education. The evolution of internet has profoundly impacted the mode of instructional delivery at higher' education level.

Statement of the Problem

To study the Attitude and Opinion towards using Computer Technology in teaching among B.Ed. trainees in Tiruchirappalli District.

Operational Definition of the Key Terms

A few terms have been frequently used that have got specific meaning for the present investigation. Given below are the operational definitions of key terms.

Technology

Technology is defined as the term used to describe the tools and processes to access, retrieve, store, organize, manipulate, produce and/or exchange information by electronic and automatic means. These include hardware,

software and telecommunication in the form of personal computer, scanners, digital canvas, CD and DVD players and programmes like database system and multi-media applications.

Computer

A Computer is device that accepts information (in the form of digitized data) and manipulates it for some result based on a programme or sequence of instructions on how the data is to be processed.

B.Ed. Trainees

Those who are studying Bachelors Degree of Education affiliated to Tamilnadu Teachers Education University under the norms of NCERT.

Attitude

A predisposition or a tendency to respond positively or negatively towards certain ideas, objects, persons or situations. Attitude influences an individual's choice of action, and responses to challenges, incentives, and rewards.

Opinion

A personal belief or judgment that is not founded on proof or certainty.

Objectives of the Study

The present study is designed to realize the following objectives:

1. To find out the Attitude and Opinion towards using Computer Technology in Teaching among B.Ed. trainees.
2. To find out the gender wise B.Ed. trainees Attitude and Opinion towards using Computer Technology in Teaching.
3. To find out the age wise B.Ed. trainees Attitude and Opinion towards using Computer Technology in Teaching.
4. To find out the Qualification wise B.Ed. trainees Attitude and Opinion towards using Computer Technology in Teaching.
5. To find out the College locality wise B.Ed. trainees Attitude and Opinion towards using Computer Technology in Teaching.

Hypotheses

In the light of the above objectives, the following null hypotheses are formulated for testing.

1. There is no significant difference in Attitude towards Computer Technology in Teaching between male and female B.Ed. trainees.
2. There is no significant difference in Attitude towards Computer Technology in Teaching between the age group below 25 as well as above 26 in B.Ed. trainees.
3. There is no significant difference in Attitude towards Computer Technology in Teaching between UG and PG B.Ed. trainees.
4. There is no significant difference in Attitude towards Computer Technology in Teaching between rural and urban B.Ed. trainees.
5. There is no significant difference in Opinion towards using Computer Technology in Teaching between Male as well as Female B.Ed. trainees.
6. There is no significant difference in Opinion towards using Computer Technology in Teaching between the age group below 25 as well as above 26 in B.Ed. trainees.
7. There is no significant difference in Opinion towards using Computer Technology in Teaching between UG and PG B.Ed. trainees.
8. There is no significant difference in Opinion towards using Computer Technology in Teaching between rural as well as urban B.Ed. trainees.

Methodology in Brief

The investigator followed the 'Normative survey method' in the present study. The following tools were selected and administrated to the B.Ed. trainee teachers of various self-financing colleges of Education from Tiruchirappalli District in Tamilnadu. The B.Ed. trainee teachers have freely responded to the questionnaire. The data, thus collected were subjected to appropriate statistical analysis.

Population

Population of this study comprised of all the B.Ed. trainee teachers studying in self-financing colleges of Education in Tiruchirappalli District and affiliated to Tamilnadu Teachers

Education University.

Sample

A sample size of 150 B.Ed. trainee teachers including 52 male and 98 female were surveyed in the Tiruchirappalli District with due representation given to the variables viz.

- Gender (Male/Female),
- Age (Below 25 years/Above 26 years),
- Students Qualification (Under Graduate/Post Graduate).
- College Locality (Rural/Urban),

Tools Used

Questionnaire on "Opinion towards Computer Usage" and Questionnaire on "Attitude towards Computer Technology" tools are used in this study.

The above questionnaire were developed and validated by Dr. R. Karpakakumaravel and A. Amulraj.

Statistical Techniques Applied

The following statistical techniques were used in the study,

- Mean,
- Standard Deviation,
- t'-test for the significance of difference between the mean scores of large independent sample was applied.

Limitations of the Study

Broadly speaking any study has its own limitations. Research studies in general will have limitation due to many factors. This study too is subject to several limitations. The present investigation was undertaken with the following limitations:

- The study was confined to the B.Ed. Trainee Teachers only.
- The study covers the limited number of Self-financing colleges of education in Tiruchirappalli District only.
- It was confined to 150 trainees only.
- The study finds differential analysis only.

Analysis and Interpretation of Data

The data collected were processed and subjected to analysis in terms of the specific objectives of the study. The details of analysis and the results emerged out of the investigation are presented under relevant headings. The details of the analysis and interpretation of data are presented as follows.

The average score of the Attitude and Opinions is found to be 16.23, while the theoretical average is 11.5 only. Hence the Attitude and Opinions of Trainee Teachers is found to be above the average level. It means that the attitude and opinion towards using computer technology in teaching among Trainee Teachers is found to be satisfactory.

Hypothesis 1

There is no significant difference in Attitude towards Computer Technology in Teaching between Male as well as Female B.Ed. trainees

Table 1 shows the statistical measures and results of test of significance of difference between the mean scores of B.Ed. trainee's attitude towards computer technology in subject teaching in terms of sex.

The calculated 't' value (0.32) is lesser than the table value (1.96) at 0.05 level of significance. This shows that there is no significant difference between male and female trainees in the possession of Attitude on Computer Technology among subject teaching.

Hypothesis verification

Table 1 shows that, there is no significant difference found in attitudes towards using computer technology in subject teaching between male and female trainees. The hypothesis 1 is accepted.

Comment

From the above findings it can be inferred that, Gender does not play a vital role in the possession of Attitude on Computer Technology among B.Ed. trainees.

Hypothesis 2

There is no significant difference in Attitude towards Computer Technology in Teaching between age below 25 as well as above 26 in B.Ed. trainees.

Table 2 shows the statistical measures and results of test of significance of difference between the mean scores of attitude towards computer technology in teaching in terms of the age.

The calculated 't' value (-2.06) is greater than the table

Variable	Sub-Variables	Number	Mean	S.D.	't' Value	Significance Level
Attitude of Computer Technology	Male	52	65.55	8.41	0.32	NS
	Female	98	68.71	8.24		

NS-Denotes Not Significant at 0.05 levels.

Table 1. Statistical Measure and Result for Hypothesis 1

value (1.96) at 0.05 level of significance. This shows that there is significant difference between age group of below 25 years and above 26 years in the possession of Attitude on Computer Technology among subject teaching.

Hypothesis verification

Table 2 shows that, there is a significant difference found in attitude towards using computer technology in subject teaching between below 25 years and above 26 years trainees. Hence the hypothesis 2 is rejected.

Comment

From the findings it is inferred that age of the trainees is an important factor in teaching learning process, using computer technology.

Hypothesis 3

There is no significant difference in Attitude towards Computer Technology in Teaching between UG and PG B.Ed. trainees.

Table 3 shows the statistical measures and results of test of significance of difference between the mean scores of B.Ed. trainee's attitude towards computer technology in subject teaching in terms of educational qualifications.

The calculated 't' value (-3.28) is greater than the table value (1.96) at 0.05 level of significance. This shows that there is a significant difference between Under Graduate and Post Graduate B.Ed. trainees in the possession of Attitude on Computer Technology among subject teaching.

Variable	Sub-Variables	Number	Mean	S.D.	't' Value	Significance Level
Attitude of Computer Technology	Below 25 years	56	68.74	8.54	-2.06	S
	26 and Above	94	82.63	9.89		

S-Denotes Significant at 0.05 levels.

Table 2. Statistical Measure and Result for Hypothesis 2

Hypothesis verification

Table 3 shows that there is a significant difference found in attitude towards using computer technology in subject teaching between UG and PG trainees. Hence the hypothesis 3 is rejected.

Comment

From the finding it is indicated that higher qualifications may give more knowledge to the proper use of technology in teaching learning process.

Hypothesis 4

There is no significant difference in Attitude towards Computer Technology in Teaching between rural as well as urban college B.Ed. trainees.

Table 4 shows the statistical measures and results of test of significance of difference between the mean scores of B.Ed. trainee's attitude towards computer technology in subject teaching in terms of college locality.

The calculated 't' value (-2.79) is lesser than the table value (1.96) at 0.05 level of significance. This shows that there is no significant difference between the rural and urban B.Ed. trainees in the possession of Attitude on Computer Technology among subject teaching.

Hypothesis verification

Table 4 shows that there is a significant difference found in attitudes towards using computer technology in subject teaching between rural and urban trainees. Hence the hypothesis 4 is rejected.

Comment

From the findings it can be inferred that, urbanization plays a vital role in the possession of Attitude on Computer Technology among the B.Ed. trainees.

Hypothesis 5

There is no significant difference in Opinion towards using Computer Technology in Teaching between Male as well

Variable	Sub-Variables	Number	Mean	S.D.	't' Value	Significance Level
Attitude of Computer Technology	UG	68	74.28	8.92	-3.28	S
	PG	82	92.19	9.99		

S-Denotes Significant at 0.05 levels.

Table 3. Statistical Measure and Result for Hypothesis 3

as Female B.Ed. trainees.

Table 5 shows the statistical measures and results of test of significance of difference between the mean scores of B.Ed. trainee's opinion towards using computer technology in subject teaching in terms of sex.

The calculated 't' value (1.42) is lesser than the table value (1.96) at 0.05 level of significance. This shows that there is no significant difference between male and female trainees in the possession of Opinion on Using Computer Technology among the subject teaching.

Hypothesis verification

Table 5 shows that, there is no significant difference found in opinion towards using computer technology in subject teaching between male and female trainees. Hence the hypothesis 5 is accepted.

Comment

From the above findings can be inferred that, Gender does not play a vital role in the possession of Opinion on Using Computer Technology among subject teaching.

Hypothesis 6

There is no significant difference in Opinion towards using Computer Technology in Teaching between the age of below 25 as well as above 26 in B.Ed. trainees.

Table 6 shows the statistical measures and results of test of significance of difference between the mean scores of B.Ed. trainee's opinion towards using computer technology in subject teaching in terms of age.

The calculated 't' value (1.72) is lesser than the table value (1.96) at 0.05 level of significance. This shows that there is no significant difference between age below 25 years and above 26 years in the possession of Opinion on Using Computer Technology among subject teaching.

Hypothesis verification

Table 6 shows that, there is no significant difference found in opinion towards using computer technology in subject teaching between below 25 years and above 26 years trainees. Hence the hypothesis 6 is accepted.

Comment

From the findings it can be inferred that, age does not play a vital role in the possession of Opinion on Using Computer Technology among subject teaching.

Hypothesis 7

There is no significant difference in Opinion towards using Computer Technology in Teaching between UG and PG B.Ed. trainees.

Table 7 shows the statistical measures and results of test of significance of difference between the mean scores of B.Ed. trainee's opinion towards using computer technology in subject teaching in terms of educational qualifications.

The calculated 't' value (2.31) is greater than the table value (1.96) at 0.05 level of significance. This shows that there is a significant difference between Under Graduate and Post Graduate trainees in the possession of Opinion on Using Computer Technology among the subject teaching.

Hypothesis verification

Table 7 shows that there is a significant difference found in opinion towards using computer technology in subject teaching between UG and PG trainees. Hence the hypothesis 7 is rejected.

Comment

From the findings it inferred that the Educational qualification influences B.Ed. trainee's possession on using Computer Technology. This may due to the fact that Higher

Variable	Sub-Variables	Number	Mean	S.D.	't' Value	Significance Level
Attitude of Computer Technology	Rural	82	81.19	9.14	-2.79	S
	Urban	68	71.38	8.22		

S-Denotes Not Significant at 0.05 levels.

Table 4. Statistical Measure and Result for Hypothesis 4

Variable	Sub-Variables	Number	Mean	S.D.	't' Value	Significance Level
Attitude of Computer Technology	Male	52	61.68	6.25	1.42	S
	Female	98	73.46	7.12		

NS-Denotes Not Significant at 0.05 levels.

Table 5. Statistical Measure and Result for Hypothesis 5

Variable	Sub-Variables	Number	Mean	S.D.	't' Value	Significance Level
Opinion of using Computer Technology	Below 25 years	56	62.42	8.13	1.72	*
	26 and Above	94	72.19	8.63		

NS-Denotes Not Significant at 0.05 levels.

Table 6. Statistical Measure and Result for Hypothesis 6

Education is an important factor for using computer technology.

Hypothesis 8

There is no significant difference in Opinion towards using Computer Technology in Teaching between rural as well as urban college B.Ed. trainees.

Table 8 shows the statistical measures and results of test of significance of difference between the mean scores of B.Ed. trainee's opinion towards using computer technology in subject teaching in terms of college locality.

The calculated 't' value (0.21) is lesser than the table value (1.96) at 0.05 level of significance. This shows that there is no significant difference between the rural and urban trainees in the possession of Opinion on Using Computer Technology among the subject teaching.

Hypothesis verification

Table-8 shows that there is no significant difference found in opinion towards using computer technology in subject teaching between rural and urban trainees. Hence the hypothesis 8 is accepted.

Findings of the Study

After processing the data, the investigator found out the following results as of the study:

- No significant difference found in B.Ed. trainees Attitude towards Computer Technology in Subject Teaching between Male as well as Female.
- Significant difference found in B.Ed. trainees Attitude towards Computer Technology in Subject Teaching between the age of below 25 years as well as above 26 years.
- Significant difference found in B.Ed. trainees Attitude towards Computer Technology in Subject Teaching between the under graduates as well as post graduates.
- Significant difference found in B.Ed. trainees Attitude towards Computer Technology in Subject Teaching between rural as well as urban college localities.
- No significant difference found in B.Ed. trainees Opinion towards using Computer Technology in Subject Teaching between Male as well as Female.
- No significant difference found in B.Ed. trainees Opinion towards using Computer Technology in Subject Teaching between the age of below 25 years as well as above 26 years.
- Significant difference found in B.Ed. trainees Opinion towards using Computer Technology in Subject Teaching between under graduates as well as post graduates.
- No significant difference found in B.Ed. trainees Opinion towards using Computer Technology in Subject Teaching between rural as well as urban college localities.

Variable	Sub-Variables	Number	Mean	S.D.	't' Value	Significance Level
Opinion of using Computer Technology	UG	68	71.60	8.22	2.31	S
	PG	82	85.28	9.10		

S-Denotes Significant at 0.05 levels.

Table 7. Statistical Measure and Result for Hypothesis 7

Variable	Sub-Variables	Number	Mean	S.D.	't' Value	Significance Level
Opinion of using Computer Technology	Rural	82	59.39	6.02	0.21	*
	Urban	68	58.99	6.13		

NS-Denotes Not Significant at 0.05 levels.

Table 8. Statistical Measure and Result for Hypothesis 8

Discussions

The investigation on B.Ed. trainee teacher's attitude and opinion towards using computer technology in subject teaching reveals that the teachers classroom activity are technology oriented. The study provides potential inputs for teacher education. Given the current wide spread use of computer technology at all levels and for all subjects, it is imperative that teachers should learn new technology. Besides pre-service training of teachers in the making, in-service training may also be given to the existing teachers to refurbish their acumen for teaching that is teaching, effectively and meaningfully.

Conclusion

The investigator has found that no significant difference exists in B.Ed. trainees attitude towards computer

technology in the subject teaching regarding gender, and significant difference was found on age, qualification and localities. He also found that no significant difference exists in B.Ed. trainee's opinion towards using computer technology in the subject teaching regarding gender, age, and localities, but educational qualification has significant difference.

Educational Implications of the Study

The present research shows that, changing from a traditional 'chalk and talk' method to computer technology used teaching method, cannot simply enrich class room teaching, but can also significantly improve their achievement. It implies that technology used teaching method proves to be more tangible in its effectiveness on achievement than the traditional classroom approach. It seems more practical and is widely acceptable to students. It also reduces individual differences and enables all types of students to perform better.

Suggestions for Further Research

Further study may be designed to explore the factors affecting the attitudes of teachers in a more in-depth manner. As attitudes are affecting Technology adoption of teachers, it may be useful to probe into details of attitudes of teachers.

Another research can be carried out in order to assess the effect of in-service trainings on the professional development of teachers. As there has been enormous investment in integrating Educational Technology at schools, teachers should follow up the system in order to ensure the optimum use of educational technologies at schools. Therefore, in order to learn whether teacher training leads to the optimum use of technologies at schools, a further study may seek for the effect of training on Technology use.

References

[1]. Akbaba-Altun, S. (2006). "Complexity of integrating computer technologies into education in Turkey". *Educational Technology & Society*, Vol.9, No.1, pp.176-187.

[2]. Al-Asmari, A.M. (2005). "*The use of the internet among EFL teachers at the colleges of technology in Saudi Arabia*", Doctoral Dissertation, The Ohio State University.

[3]. Blake, R.J. (2007). "New trends in using technology in the language curriculum". *Annual Review of Applied Linguistics*, Vol.27,pp. 76-97.

[4]. Chen, Y. (2008). "A mixed-method study of EFL teachers' Internet use in language instruction", *Teaching and Teachers Education*, Vol.24, No.4, pp.1015-1028.

[5]. Dewey, J. (2001). "*School and society*". Chicago: The University of Chicago Press. Revised Edition.

[6]. Ertmer, P. A. (2005). "Teacher pedagogical beliefs: The final frontier in our quest for technology integration". *Educational Technology Research and Development*, Vol.53(4), pp.25-39.

[7]. Garrett, N. (1991). "Technology in the service of language learning: Trends and issues". *The Modern Language Journal*, Vol.93(1), pp.697-718.

[8]. Gray, L. S. (2005). "*An enquiry into continuing professional development for teachers* (Report No. 200051)". London: Esmee Fairburn Foundation.

[9]. Harvey, J., & Purnell, S. (1995). "*Technology and teacher professional development*", Report Prepared for the Office of Educational Technology, U.S. Department of Education. Santa Monica, CA: Rand Corporation (ERIC Document Reproduction Service No. ED 393 831).

[10]. Hermans, R., Tondeur, J., Van Braak, J. and Valcke, M. (2008). "The impact of primary school teachers' educational beliefs on the classroom use of computers". *Computers & Education*, Vol. 51 (4), pp. 1499-1509

[11]. Lee Tennent. (2003). "*Multimedia: Perceptions and use in Pre-service Teacher Education*". Ph.D thesis, Queensland University of Technology, Queensland, Australia.

[12]. Patel, J. A. (2009). Development and Implementation of CAI to teach English grammar to standard VIII student in different modes. *International Journal of Multidisciplinary Research*, Vol.2 No. 9.

[13]. Kessler, G. (2007). "Formal and informal CALL preparation and teacher attitude toward technology". *Computer Assisted Language Learning*, Vol.20(2), pp.173-188.

[14]. **Scheffler, F.L. & Logan, J.P. (1999).** "Computer technology in schools: What teachers should know and be able to do". *Journal of Research on Computing in Education*, Vol31(3), pp.305-326.

[15]. **Suwanna, R. (2004).** *"Effectiveness of Computer Assisted Instruction for Primary School Students: An Experimental Study*. An unpublished Ph.D. thesis. Surat: South Gujarat University.

[16]. **Underwood, J. (1984).** *"Linguistics, Computers, and the Language Teacher: A Communicative Approach"*. Newbury House, Rowley, MA.

[17]. **Vandana, (2007).** "Teacher's attitude towards computer use - Implications for emerging technology, Implementation in Educational institutions. *Journal of Teacher Education and Research*, Vol.2, No.2, pp. 1-13.

[18]. **Warschauer, M. (1997).** "Computer-mediated collaborative learning: Theory and practice". *The Modern Language Journal,* Vol.81(4), pp.470-481.

[19]. **Wozney, L., Venkatesh, V. and Abrami, P. (2006).** Implementing computer technologies: Teachers' perceptions and practices". *Journal of Technology and Teacher Education*, Vol.14(1), pp.173-207.

Webliography

[20]. *http://www.wikipedia.org*

[21]. *http://www.apdip.net*

[22]. *http://www.educomp.org*

[23]. *http://www.ted.com*

[24]. *http://www.ictteacher.com*

[25]. *http://www.phindia.com*

[26]. *www.google.com*

[27]. *www.pallikalvi.com*

[28]. *www.ncert.com*

[29]. *www.k12.school.net*

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