EXPLORING PRESERVICE TEACHERS' BELIEFS ABOUT THE USE OF TECHNOLOGICAL BASED RESOURCES IN ELT.

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ABSTRACT:

This study examines pre-service teachers' beliefs towards the integrative use of technology in their teaching practises by identifying how they conceive it as Richardson (2003) suggested, Beliefs and attitudes "*are thought to serve as predictors of behaviours" i*n teacher education. The population, in which the researchers have been carrying out the study, are student-teachers from sixth to eighth semester from the B.A. in Education with major in English language teaching at Universidad Distrital. This population is going through the process of pedagogical experience and pedagogical project development which means they have to teach in Colombian public schools. To serve the purposes of collecting data to support the research, the researchers designed a survey and an interview as research instruments that pretended to explore what the beliefs of pre-service teachers about using technology were. Partial findings show that there is a high amount of pre-service teachers who use technology very often but they do not integrate technology with their praxis as educators. It is expected to have applied the second instrument by October 2009 and do the triangulation between the outcomes provided by the survey and the interview.

KEY WORDS: Beliefs, Technological instruction, Teacher education, Technology integration.

PROBLEM STAMENT:

Preliminary studies carried out by professors Hernandez & Quintero (2005), about the performance of pre-service teachers from an English Language Teaching Programme in their pedagogical practicum showed that there was a need of improving their linguistic, communicative and didactic competences. With this fact in mind, the research group Didactica del Inglés y Tecnología (registered at Colciencias Database) designed and implemented the educational software called ELT (English Language Teaching) and the DIT on-line platform to improve their didactic competence by means of using these technological resources.

The former attempted to foster the interaction between peers and their tutors through the use of technology and at the same time to consolidate an academic community. Having been the DIT on-line platform and the ELT course implemented at the same ELT Programme with educational purposes, it was found that the amount of population who used these two technological resources was very low and not having established the exact cause of it, took the researchers to propose an evaluation for both of them.

The first aspect they considered to be important to research about was the kind *beliefs* preservice teachers have about the use technology in their teaching practice and consider how they have used technology in their learning process as stated by Ertmer (2005) "*Beliefs about teaching and learning play an important role in transforming classrooms through the use of technology"* and explained by Myers & Halpin, 2002 and Yildirim, 2000 "*Attitudes toward technology also influence teachers' classroom uses of technology"*

When the researchers proposed to consider and explore the beliefs of preservice teachers, they did not have certainty about what the cause for preservice teachers not to use the platform and virtual course was, nevertheless the system of beliefs is so much important to be taken into consideration as recommended by Ertmer (2005) that the researchers took this kind of suggestion as a tool for the improvement of both technological tools.

Improvement since exploring those beliefs will allow the administrators of the ELT course and Dit online platform know what future users think of them and what current users of technology are thinking of tools, materials, activities and possibilities that technology offers to them, so the changes administered to those technological materials aim to fulfil the real needs they might have.

RESEARCH QUESTION:

How do pre-service teachers conceive the use of technological based resources in their teaching?

SUBQUESTIONS:

What are the preservice teachers' beliefs about the use of technology in the devleopment of their teaching practice?

How do preservice teachers' beliefs affect the way in which they use and apply technology in their lessons?

OBJECTIVE:

GENERAL:

- To explore the conceptions of future teachers from sixth to eighth semester at LEBEI about the use of technology in their formation process.

SPECIFIC:

- To identify the type of attitudes pre-service teachers have towards the use of technology with academic ends

LITERATURE REVIEW

Beliefs

Since the implementation of new technologies in education has to do with the involvement of all the participants of that educational process the understanding of teacher's and students conceptions is crucial.

How teachers view their role as teachers influences how they teach with technology. Teachers' beliefs about classroom practice appear to shape their goals for technology use as well as the weight they assign to different barriers. Both external and internal barriers often hamper successful technology implementation. External barriers include limited equipment, training, and time. Internal barriers confront beliefs about current practice and lead to new goals, structure, and roles. These barriers are intrinsic to teachers and include beliefs about teaching, beliefs about computers, established classroom practices, and unwillingness to change (Ertmer et al., 1999). Changing, teaching requires more than just time to investigate new methods. It also involves a personal commitment and courage to

try new things. Leaving the comfort zone is very uncomfortable, if not somewhat scary (Titterington, 2000).

For that reason the beliefs about teaching and learning processes play an important role on the decision of using technology in teaching. Research studies on large scale implementation projects (Berenfeld, 1996, 1994; Means, 1997, 1995; Schofield, 1995; Schofield & Davidson, 1997) typically examine the cluster of social and organizational factors that influence the adoption of new technologies. Few studies have dealt with the underlying beliefs of teachers that might advance or frustrate adoption of technology to serve school reform and/or constructivist goals. For example, did the use of technology change the GLOBE teachers' beliefs and practices, or were these special teachers, with a predisposition to teach in this way because it matches their beliefs? This topic has not been given much attention in the research literature until recently. Dexter, Anderson, and Becker (1999) conducted a study of teacher use of computers and their perceptions of the impact the technology made on changes in their teaching practice. Studying 47 teachers from 20 schools in three states, Dexter et al. found that, although most teachers reported changes in their teaching practice, they did not cite the technology use as the primary catalyst for change. Rather, they reported that insights about the effectiveness of their teaching (e.g., reflection upon their teaching), school climate and expectations, and, to a lesser degree, formal professional development were greater catalysts for change to more progressive or constructivist practices. This was true for those categorized as non-constructivist and weak constructivist, as well as those categorized as substantially constructivist. The authors suggest that focus should not be on technology as a catalyst for change but on the social environment of the school and decisions made by teachers about the kind of teaching they value. In this framework, computers are seen as a support for change, rather than the basis for change.

The most comprehensive review of teacher use of technology comes from the case studies and research reports resulting from the Apple Classrooms of Tomorrow (ACOT) project. The ACOT research project included ten years of longitudinal

research, starting with in-depth case studies of teachers in five ACOT classrooms around the country and expanding to short-term research sites in dozens of other ACOT supported classrooms nationwide. In the course of ACOT funded research, hundreds of researchers from around the country were involved in a range of research and development projects, resulting in a rich collection of research portfolios. The ACOT researchers found that, in these schools, a comprehensive use of technology supported by the necessary components of access, training, and support, encouraged teachers to undergo a process of changing their views about teaching, from instruction to construction. However, as Dexter et al. note (1998), the fact that ACOT teachers were volunteers could mean they were inclined toward progressive practice. They were, perhaps, risk-takers looking for new ways to teach and build more student-centered learning environments. Consequently, their progression and change may not reflect what would occur were the target group taken from the more conservative mainstream of teachers that constitute the norm in schools. Thus we come again to the importance of teacher beliefs and understanding how they impact technological adoption, the question around which this study was conducted.

TECHNOLOGY IN EDUCATION

Regarding the applications of technology in teaching and learning, Lundin and Sandery (1993) cited in the Australian Language and Literacy Council report (1996, p. 31) propose two broad categories of technology according to its intended application. The first category is Distributive; its use is associated with a transmission learning model in which the material is prepared in a predetermined manner and sequence with the aim to retain the attention of the user and provide motivation for learning; but there is not enough interaction between teachers and learners. Distributive technologies include: conventional print publishing; electronic publishing; broadcast television and radio; and audio and video services. The second category is Interactive; Ludin and Sanderly (1993) define it as synchronous, asynchronous or standalone. Technology provides a means of

bridging space and time such as videoconferencing; interactive television, and Internet chat, computer mediated communication (email, bulletin boards, discussion lists); text based computer conferencing; interactive multimedia and other computer based teaching courseware.

Alternatively, Brown (2003) gives a different categorization about the use of new technology in language learning classrooms. It specifically concerns with the application of computer-based technology represented by computer-assisted language learning programs (CALL); computer programs that are not specifically designed for language learning (non- CALL) but which are used to this purpose, for instance word processing, database, games, and encyclopaedia packages, and the internet and its applications.

Without considering any specific category in the application of technology, it is important to highlight that there are always pedagogical implications. Brown (2003) shows for example, that the use of computer-based technology in ESL classrooms, offers the benefit to provide learners with specific feedback, gives them the opportunity to develop familiarity with the basic computing skills that they may use inside and outside the classroom, also, it allows teachers to create their own materials; apart from the benefits, its use demands new textual practices and processes and new texts.

By the same token, the Australian Language and Literacy Council report, The Implications of Technology for Language Teaching (1996) argues that technology has come of age as a language teaching resource which can potentially provide bridges to the target language and culture, and person-to-person interaction, for instance with peers of the same language and native speaking peers in other parts of the world. The same study goes on further to explain the challenges regarding

classroom technology use, among them are considered: the coherent integration of technology in the curriculum; use of technology in harmony with current and best language and language learning theory; availability of appropriate technology at the delivery and language learning sites; availability of time to maximise the benefits of technology based resources; lastly, student and teacher training in using technologies that enhance language teaching and learning.

The implementation of new technology in language learning classrooms has also to deal with the types of interaction. In this sense, Richard and Lockhart (1995, p. 138) states “A great deal of time in teaching is devoted to interaction between teacher and the learner, and to interaction among the learners themselves.” Additionally to these interactions, in classrooms mediated by technology, the interactions between the learners and the courseware should be also considered.

On the one hand, in a broader way, it has been reported (the Australian Language and Literacy Council report, The Implications of Technology for Language Teaching, 1996, p, 41) that human interaction involves communication; it can be verbal and non-verbal, and is exchanged through speaking, listening, reading, writing, physical contact, body movement and observing. Frequently during the interaction, the participants are exposed to multiple sensory inputs and may express themselves using several forms of communication.

On the other hand, the Interaction with courseware is defined (p.41) as a ‘dialogue’ between a user and courseware through the medium of a set of input and output devices. Additionally, the study (p.41) highlights that technology is educationally interactive when, as a result of some action taken by the learner, there is observable change in the teacher or teaching materials. The teacher (or teaching

courseware) is able to provide meaningful feedback to the learner in a manner that leads to the achievement of progress towards some learning goal.

In essence, the interactions and relationships built in ESL classrooms where new technologies are implemented lay on Learners´ expectation about receiving something from the activity and teachers´ expectations about imparting something. In this regard, Kaufmann (1992) asserts," The teacher has a critical role to play in every stage of the process- choice of programs, choice of text or exercise, the nature of the pre- or post activities that are used. The computer itself cannot teach…"

To some extent, using new technology in the classroom impacts interactions, roles and conceptions of participants; Brown (p. 17) gives an overview of the ways that new technologies impact on a teacher´s self-image, she shows for example that it need to be recognised that the teacher is the deciding factor in whether or not using computers for language learning will be successful in the classroom; and that teacher´s role may change from expert to adviser due to the lack of confidence in using computers in their classes, therefore, it is needed a professional development.

Ultimately, Anderton and Nicholson´s study (1993) state "Teachers must not view technologies as just another tool, but be prepared to modify their practice in order to maximise the advantages of new technologies in the learning process…Different approaches, ability and methods are needed to use different technologies effectively…)

TYPE OF STUDY:

The current project is inscribed inside the theoretical foundations of QUALITATIVE RESEARCH, which "is a field of inquiry that crosscuts disciplines and subject matters" **(Denzin, Norman K. & Lincoln, Yvonna S. 2005).** Mainly it deals with the foundations of this paradigm taking into account that qualitative researchers aim to gather an in-depth understanding of human behaviour and the reasons that govern human behaviour. Qualitative research relies on reasons behind various aspects of behaviour since our purpose is to analyse **preservice teachers` beliefs about the use of technological based resources in English Language Teaching Lessons.**

Qualitative research categorizes data into patterns as the primary basis for organizing and reporting results. Also, qualitative researchers, typically rely on four methods for gathering information:

(1.) Participation in the setting,

(2) Direct observation,

(3) In depth interviews,

(4) Analysis of documents

Qualitative research often has the aim of *description* and researchers may follow-up with examinations of why the observations exist and what the implications of the findings are. Another important aspect stated by Burns is that a qualitative research draws on the data collected by the researchers to make sense of the human behaviour within the research context.

CASE STUDY

Yin (2003) suggests, that case study should be defined as a research strategy, an empirical inquiry that investigates a phenomenon within its real-life context. Case study research means single- and multiple case studies, can include quantitative evidence, relies

on multiple sources of evidence and benefits from the prior development of theoretical propositions. He notes that case studies should not be confused with qualitative research and points out that they can be based on any mix of quantitative and qualitative evidence (Yin 2003). Program implementation case studies

Yin (2003) recommended the use of case-study protocol as part of a carefully designed research project that would include the following sections:

- Overview of the project (project objectives and case study issues)
- Field procedures (credentials and access to sites)
- Questions (specific questions that the investigator must keep in mind during data collection)
- Guide for the report (outline, format for the narrative) (Yin,2003)

Program implementation case study help discern whether implementation complies with intent. These case studies may also prove useful when concern exists about implementation problems. Extensive, longitudinal reports of what has happened over time can set a context for interpreting a finding of implementation variability.

Stake (1995) and Yin (2003) identified at least six sources of evidence in case studies. The following is not an ordered list, but reflects the research of both Yin (2003) and Stake (1995):

- Documents:

Documents could be letters, memoranda, agendas, newspaper articles, or any document that is germane to the investigation.

- Archival records :

Archival documents can be service records, lists of names, survey data, and other such records.

- Interviews:

Interviews are one of the most important sources of case study information. There are several forms of interviews that are possible: Open-ended, Focused, and Structured or survey. In an open-ended interview, key respondents are asked to comment about certain events. They may propose solutions or provide insight into events. They may also corroborate evidence obtained from other sources. The researcher must avoid becoming dependent on a single informant, and seek the same data from other sources to verify its authenticity.

- Direct observation:

Direct observation occurs when a field visit is conducted during the case study. It could be as simple as casual data collection activities. This technique is useful for providing additional information about the topic being studied.

- Participant-observation:

Participant-observation makes the researcher into an active participant in the events being studied. This often occurs in studies of neighborhoods or groups. The technique provides some unusual opportunities for collecting data, but could face some major problems as well.

- Physical artifacts

Physical artifacts can be tools, instruments, or some other physical evidence that may be collected during the study as part of a field visit. The perspective of the researcher can be broadened as a result of the discovery.

PROFILE OF PARTICIPANTS AND SETTING:

The participants chosen to carry out this project belong to an English Language Teaching programme from a public university in Bogotá. This study was held with 70 students from 6th, 7th and 8th semesters. The population was selected bearing in mind that the platform and the ELT course were designed for improving the didactic competence of pre-service teachers.

DATA COLLECTION INSTRUMENTS

The data collection has taken place since the second semester of 2008 and also will take place the first semester of 2009, using sometimes non-observational tools which results in data are essentially, that is, they invite personal and individual accounts of events, attitudes and beliefs. "They encourage respondents to self-report their perspectives on the phenomena under investigation" **(Burns, 1999:135)**

The instruments are:

- **Surveys**:

Students will receive surveys at the beginning of the process in order to identify their conceptions about the use of technological devices in teaching and learning. This form of data collection has been chose based on the statements cited by (**Burns,1999:172**) on her book *Collaborative Action Research* where it is mentioned that surveys are "*a written set of questions used to gain responses in non-face-to-face situations; questions are usually focused on specific issues and may invite either factual or attitudinal responses. In addition, we are going to consider that in a survey it is often beneficial to pilot the questions first by trialing them with colleagues or a small number of students, so that any ambiguities or misunderstandings can be identified beforehand*"(P.129)

In order to get and find possible changes occurred throughout the process, this last data is going to be qualitative according to its descriptive nature of students' perceptions and performance. Discursive data, which is qualitative, depends on individual perception of the

reality and the context the student is surrounded, to realize what he/she is doing and the way he/she is performing it.

- **Interviews:**

According to Anne Burns the interview is a suitable method for collecting data that will deal with deep understanding of the subject because they provide the researcher with more detailed information about the phenomena. As she states the purpose of the interviews to obtain information by actually talking to the subject…"*interviews are personalized and therefore permit a level of in-dept information-gathering, free response, and flexibility that cannot be obtained by other procedures*" **(Burns, 1999:166).** In the case of this research, the researchers will use semi open interviews which are defined as interviews in which there are specific core questions determined in advance from which the interviewer branches off to explore in depth information, probing according to the way the interview proceeds, and allowing elaboration, within limits **(Burns, 1999:167)**. This method will be used after the surveys and observations have taken place. The data collected from this technique will allow us to have a reliable and complete data. Since this is the last procedure used the participants will be fewer than in the other procedures.

PRELIMINARY FINDINGS:

In a partial analysis of the surveys we found that Preservice Teachers consider to a range of 90% the use of technological based resources as useful, helpful, important and comfortable tools for improving their practice as teachers, nevertheless some consider that technology is still not available fully for the teaching contexts in which they carry out their practicum. Some others expressed that there is accessibility but teacher do not credit enough knowledge as to use technology in a proper manner.

The prior was found in the responses that preservice teachers provided for the question: "*how do you feel about the use of technology in your learning process?"*

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