# SHOWCASING THE EXPERIENCE OF PRACTITIONERS WITH TECHNOLOGY-ENHANCED TEACHING AND LEARNING

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## Abstract

*This paper describes a research project, which seeks to showcase the experience base of practitioners with technology-enhanced teaching and learning. A particular focus of this investigation is how the use of information and communications technology is influencing teaching practices and students' approaches to learning at the University of Melbourne. This investigation is a naturalistic inquiry into the experience base of academics who have been engaged in technology-enhanced teaching and learning. Our goal has been to look beyond objective data and to ascertain how information and communications technology is fundamentally influencing the nature of the teaching and learning transactions. As such we are interested in the "untold" stories of practitioners and participants in this work. Data that is collected is archived on a website that is maintained by the Department of Teaching, Learning and Research Support. This website is designed to be a dynamic archive that is maintained on a continuing basis and used in a variety of ways, including use in faculty development activities.*

## Keywords

*evaluation, practitioner experience, technology-enhanced teaching and learning*

## Aim of this Paper

Universities are just beginning to pay greater attention to improving one of their core functions (ie. teaching and learning) with the innovative use of information and communications technologies. Consequently, there is a lack of reliable knowledge about *what* works, *why* and in *what ways*? This paper describes a research project that is trying to seek some answers to these questions. The goal of this project is to look beyond data from student questionnaires and into the experiences of a selection of *practitioners,* to ascertain how ICT is fundamentally influencing the nature of the teaching and learning process in various subject matter domains. As such its aim is to tell the "untold" stories of practitioners and participants. The stories we collect, and the profiles of practice that we develop will comprise the data for the development of conceptual models of best practice. These models will then form the subject of empirical study in the future.

The outcomes of this research are expected to be a deeper level understanding of how the use of ICT is influencing teaching and learning in fundamental ways. In that regard, this is "exploratory" research as it seeks to compile stories of the experiences of teachers and students with technology-enhanced teaching and learning. As an immediate output, these "stories" or "vignettes" of practitioners will be used to build a "gallery of stories" on technology-enhanced teaching and learning that will be accessible on a website for the benefit of all, but most importantly, for novices. Furthermore, models of behaviour and practice derived from this research will provide the context for more empirical studies in the future, such as the study of any correlation between innovative teaching and learning designs and specific learning outcomes, and/or approaches to learning and teaching.

## Methodology

This investigation is a naturalistic inquiry (Lincoln & Guba, 1985). Naturalistic inquiry, logically enough, is carried out in a natural setting where the context is heavily implicated on meaning. Such a contextual inquiry *demands* the use of human instruments for gathering data. Human instruments have the capacity to use their tacit knowledge combined with qualitative data gathering tools such as *interviews*, *direct observations*, *self-reporting and think-aloud*, *document analysis*, and other *unobtrusive measures*. Once in the field, the inquiry takes the form of successive iterations of four elements: *purposive sampling*, *inductive analysis* of the data obtained from the sample, *development of grounded theory* based on the inductive analysis, and *projection of next steps* in a constantly emergent design (Lincoln & Guba, 1985, p. 187). Throughout the inquiry, and especially at the end, the data and interpretations are continuously checked with respondents, and differences of opinion are negotiated until the outcomes are agreed upon or differences of opinion are understood and reflected as such. This information is then used to develop a report of the case. The case study is primarily an interpretative instrument for what was found there. It is tested for "credibility", "transferability", "dependability", and "confirmability" from early on in the study and continuing throughout (Lincoln & Guba, 1985, p. 189).

## Procedure

Interviews comprise the principal instrument for collecting the stories from practitioners. Although a set of trigger questions formulated around the action learning cycle is used to conduct the interviews, on the whole the interviews are fundamentally reflective and conversational in nature. These interviews are audiotaped and then transcribed. The trigger questions for the interviews are used to extract pertinent content from the text of the transcribed material. Once completed, these are presented to the interviewees for assessment of their accuracy, credibility with regards to what was being represented and overall confirmation as a true representation of their experience with technology-enhanced teaching and learning. The confirmed profile is then prepared for entry into the database, which provides a forum for the stories of practitioners with technology-enhanced teaching and learning at the University. This website is housed in and maintained by the Department of Teaching, Learning and Research Support in the Information Division.

### Format of the Profiles

The main thrust of each story uses the following action learning processes—*planning, doing/ taking action, observing* and *reflecting*. A number of trigger questions are used to form the basis of the interviews. Contributors are encouraged to provide links to other resources relating to their project.

### Trigger Questions

**Planning**
1. What were your goals and motivations?
2. What about teaching and learning you were trying to influence *(eg. innovative approaches to content presentation, activation of learning, assessment, socialisation, or provision of feedback)?*
3. Why where they important and to whom and what?
4. Describe your approach to learning and teaching in relation to this project?
5. What unique challenges did you face in planning your approach?

**What you did**
1. How did you go about choosing the tools and technologies?
2. What influenced your choice of these tools and technologies?
3. What challenges did you face in selecting these tools and technology?
4. What limitations did you experience, financial, technical or organisational?

**What happened**
1.  What worked and didn't work?
2.  What criteria you used for evaluating the effectiveness of your progress?
3.  How did you make use of the data that was gathered?

**What you learned**
1.  How did this innovation influence your view of teaching and learning?
2.  In what ways have you changed in the way you think about your teaching?
3.  How did it influence your students' approaches to studying and learning?
4.  Did it impact your understanding of your students' studying and learning?
5.  What are your successes, failures, serendipities, lessons learned?
6.  What would you do differently next time?

*Sample Profile*

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**Planning: Goals and Motivations**
As teachers we were keen to see if there were other ways in which we could engage with our students that would be different, interesting, and challenging for both us and them as well.

**Planning: Approach to Learning**
We were using a different approach to teaching and learning and assessment, and which relates to the issue of engaging students in the interaction.

**Planning: Challenges**
Trying to engage students using multimedia is a big challenge. It's a bit easier being in the class with fifteen other people talking about whatever the subject is and being challenged, hearing other points of view, engaging in that process, as part of your professional development.

**Doing: Choice of Tools**
The driving issue was finding tools that would enable us to bring together theory and practice in an accessible, challenging, and hopefully an interesting way that mirrored the practice in the discipline but would be accessible to students.

**Doing: Challenges in Selecting Tools**
Finding tools that would enable us to engage with students and present them with an interesting mirror of practice, without having to send them back to the field.

**Doing: Limitations Experienced**
The biggest stumbling block was time and also the perception among those who are not involved in these sorts of developments directly, and that is that having developed them once, they are done.

**Observing: What Criteria for Success Were Used**
The obvious ones were, did it make our work more enjoyable, and did the students like it.

**Observing: How Those Criteria Were Measured**
We engaged in some post LaSWOP debriefs among ourselves. We also examined data from an online discussion, and individualised email-based feedback.

**Reflecting: Impact on Your View of Teaching and Learning**
What we are trying to do is mirror practice, and practice does change. I am certainly acutely aware of the need for my students to engage with the material. I think that has translated, in an indirect sense, into some of my other teaching in lectures and seminars.

**Reflecting: Impact on Your Student's Studying and Teaching**
Well that has always been a critical issue in social work education. I think that this project has certainly helped to sharpen and focus our attention on that issue.

**Reflecting: What Did You Learn**
A regret that we have is that it has taken as long to get this far. Perhaps better planning and technical assistance and know-how in house would have helped.

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## Website Development Process

Data gathered with interviews is presented in a website targeting University of Melbourne academics. Fields in this database include standard metadata, such as the names and affiliations of faculty and projects, discipline areas, aspects of teaching and learning that are being impacted by each project, technologies used, and dates of implementation.

These predefined categories include displays of reflections on various aspects of the teaching and learning processes for individual projects, as well as displays of multiple stories on similar goals and/or processes. The user is also able to search for stories on particular discipline areas.

Browseable lists include projects by faculty and department, as well as by the predefined action learning processes. This allows users to view the reflections from varying perspectives. Search functions provide for user-constructed views of the data to enable investigation based on specific interests. Key word searching is also available within all fields of the database.

Each story segment is displayed with fully linked metadata for the corresponding project. This allows users to connect to other Teaching, Learning and Research Support department databases containing technical and project information, or to contact the academics involved with the project. Links are also made to live web content where this is appropriate.

The presentation of this paper will comprise a short demonstration of the website.

## Concluding Remarks

The work that is described and discussed in this paper grew out of a growing call for "evidence of the impacts" of information and communications technology in tertiary teaching and learning. While this is a question that has been asked many times before, answers to it have not been conclusive one way or the other. There are also suggestions that the acclaimed benefits do not justify the cost, time and effort that this kind of work entails. Many of these findings are however, problematic as they are based on neither reliable nor valid search techniques. The work that is reported in this paper incorporates investigation techniques that depart from the commonly used approaches to the quantification of user perceptions with questionnaires and surveys of sorts.

Our goal in this work is to capture the experience base of practitioners with the use of a range of data gathering techniques that are grounded in the principles of naturalist inquiry. We realise that data derived from these kinds of approaches are not easily "generalizable" to other contexts. But then "generalizability" is a function of sampling and we expect that over time, we will have in this gallery, the amount of information and data that is necessary to make meaningful generalisations from it to similar situations and contexts. We anticipate that this gallery will grow into an extremely rich resource of the experience base of not only many of our pioneering efforts but some of the most innovative work that is being undertaken in this regard at the University of Melbourne.

## References

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills, California: Sage Publications, Inc.