The *eChange Project*: Supporting a Faculty of Education's Move to Authentic Use of Information and Communication Technologies through Mentoring.

Author: Sandy Schuck

Faculty of Education, University of Technology, Sydney, Australia.

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Abstract

It is becoming increasingly apparent that there is a need for higher education institutions to support their staff in the development of course offerings that are either online or have Information and Communication Technologies (ICT) integrated in meaningful and effective ways in them (Burbules & Callister 2000, Franklin & Peat 2001). Consequently, the Faculty of Education at the University of Technology, Sydney embarked on a professional development project, the *eChange Project,* in 2000 which has continued 2001-2003. It has the goals of supporting academic staff in developing pedagogically appropriate online components in their subjects. The project is underpinned by change management principles as suggested by Scott

(1999), Brown (1999), and confirmed by Trowler and Cooper (2002). eChange agents were appointed from within the faculty to implement the project. Factors such as managerial support, the development of good working relationships between the agents and the academic staff, and the opportunities for staff to consider and discuss problematic issues raised by the introduction of online learning, have contributed to the successes of the project. Time constraints, cynicism about the value of using ICT to enhance teaching and learning, staff and student satisfaction with current methods of teaching, and access and equity issues have been barriers to uptake for some of the faculty staff.

The paper reports on some of the strategies used in the *eChange Project* and discusses the challenges of the project to date. A mentoring framework (Kram, 1983) is used to locate faculty responses to the professional development project. Anecdotal evidence in the form of comments to the eChange agents, interviews with selected staff, and responses on evaluation sheets offers insights into the perceptions of the staff about the project and the relative merits of the different strategies that were used.

Introduction

It will be obvious to every one involved in higher education that universities are under considerable pressure to change. Reduced public funding over the last decade has contributed to this. In more recent years, however, other related pressures for change have occurred. Two of the most important of these have been the changing demographics and needs of students which have led to demands for greater flexibility in their learning programs (Collis 1998) and the threats to the universities' student 'market' from non-traditional providers of higher education, particularly virtual and corporate universities.

When we put these factors together and add to them the potential of the new technologies for enhancing teaching and learning it seems clear that there is a need for substantial change in the way university lecturers undertake their teaching and learning activities (Burbules & Callister 2000, Franklin & Peat, 2001). This is particularly the case in faculties of education where to retain credibility in the professional community there is also a need to develop, implement and critique new teaching and learning theories, methods and technologies. Collis (1998) discusses the responsibility of faculties of education "to provide leadership in articulating and modeling these new didactics in their own instructional practice." (Collis 1998, p.2)

This paper is concerned with how one faculty has sought to come to terms with the combination of these issues and to equip the staff to use new technologies in their teaching in appropriate ways. It describes a process that has been based on research about how to undertake educational change in an institutional setting (Scott, 1999). The project is underpinned by beliefs about learning that see learning as an active and collaborative venture between students and staff with an emphasis on learner self-assessment, autonomy and reflection (Berge 1997; Luft & Tiene 1997, Stephen 2000). A challenge for the project is that the majority of faculty members already follow principles of good practice as enunciated in the higher education literature (Biggs 1999; Entwistle, Skinner, Entwistle, & Orr 2000; Norman 1997) and therefore question the imperative to change their teaching to include Information and Communication Technologies (ICT). Further, although the faculty is working with a

student group with increasingly diverse needs, locations and contexts, issues of access and equity influence staff perceptions about the value of offering these students new ways of learning using new technologies. Another issue is that the implementation of new technologies can increase workloads for staff members already working to their limit. Alexander and McKenzie (1998) have noted in their evaluation of ICT projects in higher education, that the cost in time to academics was high and resulted in loss of time for research and personal matters, which could be detrimental to career opportunities (Alexander & McKenzie 1998, Executive Summary). These valid concerns and issues develop a tension between perceptions of the need for change in higher education as delineated in the above literature and perceived costs to faculty staff and students. This tension will be discussed later in this paper.

It is in this climate that the eChange project was developed to support staff in using new technologies in authentic and viable ways that would enhance the learning process and create opportunities for flexible and interactive learning, while simultaneously acknowledging the above concerns. Management assumptions underpinning the project were that staff would benefit more from mentoring by academic peers than by external consultant educational technologists; that the emphasis would be on the learning and teaching rather the skills required to use the technologies; that the process would take a few years; and that an ongoing supportive presence was essential for success. So rather than pursuing a model of professional development that consisted of discrete sessions to demonstrate or workshop a particular skill, a mentoring model was used with support available as needed.

The literature on professional development supports these premises. One study indicates that teachers will use computers appropriately when they are provided with sustained support over three or four years (Swetman and Baird, 1998). Work by Orsmond and Stiles (2002) indicates that an important component of professional development is onsite support of learning activities and mentoring assistance on an individual basis. The research literature on professional development highlights the need for the support to be grounded in the academic's context, to be sustained, and to encourage reflection on practice (Orsmond & Stiles 2002; Solomon & Tresman 1999). This paper details the process of putting these principles into action. It discusses the progress made in the project and raises some yet unresolved issues and existing tensions for discussion.

Background

At the time of the inception of the eChange Project, there appeared to be two quite distinct groups of people in the Faculty of Education at UTS. One group could be seen as the "early adopters" of ICT. They were the people who had been using computers and computer technology for some time and were eager to investigate how they could further use these technologies to enhance both their teaching and the learning experiences of their students.

These people quite often experienced frustration at the obstacles that existed in a large organisation for those who wanted to pioneer new ways of using technologies. They were frequently thwarted in their attempts to develop innovative uses of the technology as the faculty did not have the capacity to support these uses.

At the same time, there was another group of people who did not see value in the use of new technologies for their teaching or who were quite unfamiliar with them. As the faculty was undergoing a large amount of change with respect to its staffing, resistance to new and seemingly untested uses of technology, and to the accompanying time demands was high. There was also a general cynicism in the faculty about new approaches to course offerings.

In general, then at the start of the project, at the beginning of 2000, there were six to eight people who were actively using ICT in their teaching in appropriate and authentic ways and a group of about fifteen to twenty people who were actively opposed to the use of ICT in their teaching, for reasons as discussed above. The remainder of the academic staff (approximately thirty) used ICT to a certain extent, but more for administrative uses than for pedagogical ones.

An additional factor adding to the complexity of the context was a geographical one. The Faculty of Education is split over two campuses. One campus is located in the Central Business District of Sydney and the other campus is located in the northern suburbs of the city, some 17 km away from the city campus. As most of the people in the group of enthusiasts were located on the suburban campus, opportunities for sharing their expertise and enthusiasm were mainly limited to that campus. It might have been anticipated that this geographical split of the faculty would increase motivation for interaction using communications technologies but many of the staff on the two campuses had experienced very few interactions with each other and did not therefore feel the need to communicate with relative strangers from the other campus. Nor were staff on the city campus swept along by the enthusiasm of the early adopters as the latter were not stakeholders within the city campus staff's communities of practice. The opportunities of bridging the distance digitally therefore were not realised. Indeed, as will be discussed below, efforts to set up an electronic learning community across the two campuses were successful only in the short-term.

The eChange Project

The perceived need to set up the project was the result of a combination of factors discussed above. The most important of these was the desire for professional credibility. The sudden explosion of interest in e-learning over the past few years caused the management of the faculty to feel that we needed, at least, to be aware of the new technologies and at best to become leaders in their appropriate uses. Faculty management also had a desire to promote critical use of ICT for teaching and learning so that the faculty could add to the existing knowledge in this area in authentic ways. Initially, too, there was a hope that use of online resources would be time and cost-beneficial as fewer staff might be needed to teach in courses. However, as the project progressed the management team became aware that time and costs would not be substantially reduced, particularly in the short term.

The professional development of staff in the use of ICT came to be known as the eChange Project. Two coordinators of this project were initially appointed from the academic staff. They were the author and a colleague, now retired. The two academics collaboratively implemented the project during 2000-mid 2001. The author continued with the project in the second semester of 2001 and in 2002 two other staff members became eChange agents under the author's coordination. As the author and

one of the eChange agents were on sabbatical in second semester 2002, the remaining eChange agent simply supported those who required help and did not initiate any new professional development events. Since the start of 2003 the project has been operating in its full capacity. The coordinators were appointed by the Dean and his Management Committee to work in this project because of their interest in the area and because of the Dean's belief that they were well known and accepted by members of the faculty on both campuses. Initially the two agents were given a time allowance of half their workload each to conduct the project, but this was reduced in first semester 2002 to 78% of a total workload, to be shared between the three agents and further reduced in 2003 to a total of 55% of a normal workload to be shared among the three eChange agents.

Strategies of the eChange Project

A number of strategies were used by the eChange Project. A few of these are discussed below. As the project has been implemented over the past few years, different strategies have been used at different times to respond to the changes in needs of staff. This is discussed in more detail here.

As noted earlier, the model of professional development was based on a mentoring model. The process went through a number of phases which could be seen to have similarities to the phases in a mentoring relationship as suggested by Kram (1983). Kram articulates four stages of initiation, cultivation, separation and redefinition. Initiation is the period in which the mentoring relationship forms. Cultivation is the second phase and Kram suggests that in this phase the two partners learn more about each other and maximise their gains from participating in the relationship. The third phase involves the decrease of mentor functions and increase of protégé autonomy. Finally the redefinition phase moves the relationship to a more mutually supportive relationship (Chao, 1997; Kram, 1983).

The analogous phases in the eChange project are the following ones. The first phase was initiation, in which staff learnt about the eChange project and its relevance to them. Cultivation was the second phase and this was the period in which the eChange agents negotiated with staff about the value of ICT for their teaching and focused on changing attitudes towards its use. The third phase differed in concept from Kram's "separation" phase and is more aptly described as the investigation and implementation phase. In this phase staff started using various ICT with the support of the eChange agents. The final phase is a redefinition phase in which staff start investigating other uses of ICT and trial individual ICT that they believe will add to their teaching. A redefinition of the role of the eChange agents and their relationship to the other academics is occurring here.

The initiation phase: Introducing the staff to the eChange project was done initially on a one-to-one basis. One of the first steps that the agents took was to interview staff members individually. This phase was suggested to us by Collis (1999, in conversation). We started by interviewing key people on both campuses. The objective of these interviews was to find out how (if at all) people were using ICT in their teaching and to investigate what areas of their teaching they wished to enhance by appropriate use of new technologies. We also wished to ascertain people's views of the use of ICT in teaching and their confidence levels for using various aspects of

ICT. In general, the interviews served as opportunities for the coordinators to get to better know staff from the City Campus (as at that point both agents were from the suburban campus) and get a feeling for how each person viewed the use of ICT, so that they could be supported at an appropriate level. We also were aware of recommendations in the change literature that suggested that both a top-down and a bottom-up approach were needed (Scott, 1999) and that academics' tacit assumptions and practices needed to be made explicit and reflected upon (Trowler & Cooper, 2002). Having the full support of the Dean for the project was essential but getting faculty members involved and enthusiastic was equally important. The interviews were successful in allowing the coordinators to raise awareness of the project and to build relationships with the staff, but were not as successful for developing ideas about the use of ICT as the work overload that staff were experiencing prevented most of them from exploring the ideas raised in the meetings any further once the meeting was over.

Cultivation stage: Developing strategies in which staff were supported by the project and the project could tap into the expertise of the early adopters was the next stage. One early step here was to form a committee of enthusiasts and technology support people. The committee, known as the Web Pedagogy Development Group (WPDG), has the mission of developing strategies to allow innovative and pioneering use of ICT in teaching and learning. A member of the management team of the faculty was invited onto the committee, and this member is responsible for getting management approval for budget items and for offering the committee a picture of the larger context in which the ICT developments should be located. The university and faculty strategic initiatives are used as a framework for the group's activities. The group functions extremely productively and it was through the efforts of this group that a faculty server for ICT development was established. The group continues to serve as an advisory committee for the project and the combination of early adopter academics and technical support staff is a successful one, in that ideas can be mooted by academic staff, discussed as to their feasibility from a technical aspect and then moved forward through the WPDG member who also belongs to the Management Committee. The tone of the committee is one of positivity, and members look for ways to achieve goals rather than reasons for delaying or obstructing them.

A major strategy of the eChange Project, that appeared to be viewed as important by staff, was that the coordinators were academics rather than technical experts. The fact that we approached the use of ICT from a pedagogical point of view rather than from a skills development or technicist perspective seemed to be a positive factor in the eyes of most of the academics. We therefore ran workshop sessions and seminars in which we introduced various ICT in a context of how they could enhance learning and teaching. Sessions had times included for sharing of pedagogical approaches and these forums provided valuable opportunities for a very busy faculty staff to reflect collaboratively on teaching and learning. After these workshop sessions we then offered our services on a one-one basis to support innovations that staff might wish to introduce as a result of the new information gained in the group sessions.

A goal of the eChange Project was to assist staff in integrating ICT, and in particular, online learning, into educational programs where appropriate. The coordinators could see the importance of having developmental use of ICT in the faculty programs so that students would be able to develop their thinking about the usage of different

aspects of ICT and not experience overlap of ICT-related activities between subjects. A new degree program was being developed at the start of the project, so the eChange agents met with the program coordinator and the subject developers to create a developmental path for appropriate ICT usage in the whole educational program. Subjects were written with these aspects of ICT in them and the current challenge of the eChange Project is to support academics to implement them in each of the subjects as it occurs in the program. A similar process is envisaged for those other educational programs offered by the Faculty in which most of the subjects are core subjects.

The faculty has a large component of distance students and it was anticipated that the courses taken by these students would benefit most from including online components. Therefore a pressing task was to help staff members attain familiarity with an online computer-mediated discussion program and to draw staff members' attention to authentic and appropriate ways of using such a technology in their teaching. The faculty is fortunate in that one of the recent University strategic initiatives concerned flexible learning. Some years ago a university wide Flexible Learning Action Group (FLAG) was started to consider the use of online learning technologies. This FLAG recommended the use of first one online learning environment, TopClass, and a few years later another, from the Blackboard Company. The latter is now used as the UTS online environment. The software is managed centrally and support for tuition and technical aspects is provided by central divisions of the university. As a result, the university is a very large user of the Blackboard product, known in our university environment as UTSOnline.

Many staff in the Education Faculty had gone to introductory courses on TopClass when it was first introduced, as this had been strongly encouraged by the Dean and Management Committee. However, in the early days of TopClass usage, there were many technical and other problems and most staff did not persevere in their use of it. Further, it became obvious that to merely attend a course, without having a clear purpose for the usage of the software was extremely limited, and that most people who had attended the course without having a need to use TopClass very quickly forgot how to use the software.

The challenge for the eChange coordinators was to re-ignite interest in web-based communication. Most people in the Faculty were not using TopClass and felt quite negative about the use of such technologies, based on their early experiences with TopClass and their doubts as to how its use would enhance their teaching. As the project started, the Blackboard product was being trialled and we were loathe to help prepare staff in the use of TopClass as it looked likely to be phased out. Halfway through 2000, this did in fact occur, and training in the use of UTSOnline began.

To facilitate use of UTSOnline and to demonstrate its possible uses, we started a forum for Education staff on UTSOnline, named Education Online. Staff were asked to express interest in participation in the forum and 34 staff members enrolled, including the Acting Head of School of another Faculty who was working with someone in Education. The forum was used for a number of purposes: firstly, as an opportunity for staff to become familiar with UTSOnline in an ongoing context; secondly, for staff to be enrolled as students so that they could get acquainted with the nature of online interaction through the eyes of students. Thirdly, the forum was a

place where sharing ideas on online learning strategies could occur. The most popular of these ideas was the following one which we used as an introductory activity:

Photo Gallery

Hi Everyone,

We are using a photo activity to start our Online Group. We have used this activity before in our face-to-face workshops with Masters students and others. It really worked well at getting everyone thinking about the subject and getting to know each other.

We are trialling the same activity now with great interest to see how it works online. Do let us know your thoughts and comments in this regard. (By private email, phone calls or posting to the group in the Feedback Forum of the Discussion Board.) If you have alternatives for opening a subject that you are interested in trialling in this group, please suggest those as well in the Feedback Forum.

Your friendly eChange agents

A set of pictures from the web were placed into the Course Documents folders and staff were invited to post their reactions into the Discussion Board:

Welcome to our photo gallery:

Browse through the photos below and then choose a photo from the selection which best represents your feelings about Information and Communication Technologies.

Go to the Communication button (on the left hand side), and then choose Discussion Board to write your response in the discussion forum created.

Some of the postings were very revealing in expressing people's feelings and it was interesting to see the depth of emotion that was expressed in this activity [1]:

I've chosen the bolts to represent my feelings about ICT as (a) work and (b) frustrating.

I considered choosing the library, which would have covered (a) but the library pictured did not show the degree of frustration I often feel when tied to a computer that is breaking down or having problems; or, even in the absence of problems, at being chained to my desk and computer for increasing numbers of hours per day and days per week. Probably a prison cell would have represented my feelings better than any of the photo options offered; and a prison cell with dollar notes

being torn up and thrown out the window would have represented my
feelings even better. (AK, Posting to the Discussion Board, May 2000)

My response to the photos is 'Rapids'...something difficult to be
negotiated with many spills along the way. (BK, Posting to the
Discussion Board, May 2000)

I chose the geyser because it reminded me of attending a wonderful
conference on flexible delivery in New Zealand in April. There were
many creative demonstrations of using Information Communication
Technologies for learning from many dedicated teachers mostly with
limited resources. The potential was enormous and very inspiring for
me. (EH, Posting to the Discussion Board, May 2000)

I chose the photo of the children playing. After having skipped several
instructions in anticipation of getting into this program and then
needing to retrace my steps, it reminded me of how my work-driven
web searches can be easily distracted by a hoard of 'junk food for the
mind' messages beckoning for me to come and play (and how easily
I'm led astray). (DH, Posting to the Discussion Board, May 2000)

Other material on the Education Online Forum included papers the coordinators
placed in the Documents section on online learning. Some papers were used as a
stimulus for conversation in the Discussion Board for conceptual aspects of online
learning. Others were in the nature of guides to facilitating online learning and
providing advice on moderation, online etiquette etc.

Usage of the forum was strong in the first month or two, but again time demands on
users led to only a few staff members continuing to contribute over a sustained period
of time. However, a very positive outcome of being enrolled in this Forum is that of
the 34 people that were enrolled in the Forum, 25 started offering subjects with a
UTSOnline component and activities that were used in Education Online, such as the
photo gallery, have been adopted in some of the subjects.

An important part of the eChange Project has been the offering of a number of
workshops, forums and seminars to the staff through the eChange Project. Some of
these have been opportunities to "Show and tell", that is, a discussion of examples that
have been successfully implemented through web-based technologies. Other forums
have been opportunities to discuss learning and teaching in general, and others have
been hands-on workshops in large or small groups in which specific technologies
have been trialled and discussed with suggestions provided as to pedagogical use.
Attendance at the workshops has been good, and comments on the workshops have
been very positive. The opportunity to work with members of the other campus
appeared to be appreciated by a number of staff members:

I think that the concept of the days [we offered a two day faculty
workshop at the beginning of the academic year] was great. It brought
both campuses together. Very well organised and run. Thank you
(anonymous evaluation, Feb 2001)

Suggestions for continuing the process included asking us to offer ongoing support as people started to use the communication software, and continued technical and pedagogical forums. One person requested "a dummy's guide to UTSOnline".

To encourage staff to develop their skills in ICT and develop their thinking about the place of ICT in teaching and learning, and to bridge the perceived gap between practice and research, a number of small research projects which were studies of innovative practice were developed with staff members in this area. Further, research groups included a study of the impact of innovative technologies in their research programs. The need to have seamless connections between research and practice was emphasised by faculty management.

A final strategy that was introduced in the cultivation stage was a reading group on issues dealing with ICT in education. The group met once a month to discuss readings about education and ICT. These readings included discussion about identity in online discussion (Turkle, 2000), whether schools should exist in their current forms given the new technologies (Carroll, 2000) and an investigation of Webquests (March, 2001). An average of eight to ten people attended each meeting and the papers were also sent out to the whole faculty. The opportunity for people to discuss the use of ICT in education in a deeper way and to debate its use was successful in extending participants' thinking in the area.

Investigation and Implementation: This phase differs from the mentoring phase three identified by Kram. In this phase, our objectives were no longer to get staff acquainted with available ICT or get attitudes changed. We felt that both those objectives had been largely achieved in the earlier two phases. This phase concerns our just-in-time support for those who are beginning to use UTSOnline or other ICT and who want suggestions for effective use in their classes. Our interactions in this phase are mainly one-one with some small group sessions which have a particular discipline or field focus. Most of the staff are requiring this stage of support at present although some have reached the final stage of this professional development project, that of redefinition.

Redefinition: About 30-40% of the staff are now at this stage. They have taught using UTSOnline and are investigating other forms of ICT that will enhance their teaching. A survey was recently been sent to all staff to ascertain what they would like to happen in the eChange Project this semester. A number of staff have requested support for the developments in ICT that they have introduced to their subjects, or for some sharing of ways that they can enhance their use of particular aspects of ICT. For example, a request to have a session on the use of Webquests (Dodge 1995) was received from a staff member who was already using these and wanted to hear what others were doing in the area. A group of interested staff attended this session and their experience of Webquests ranged from unfamiliarity (but interest) to extensive experience with them. Others are interested in attending a session on using a digital video camera in teaching.

We have found that sessions on sharing experiences on the use of UTSOnline no longer attract many people and for those who are still relatively inexperienced with this software, one-one sessions are far more popular.

Perceptions of the staff about the eChange Project

In surveys of the staff, the following comment was fairly typical from those who had not previously been strong users of ICT in their teaching:

> I really liked the fact that two of my colleagues were the people running it. This meant two things: (1) workshops and activities were organized in ways that were relevant to how academics think; and (2) people were available for quick one to one advice. (AK, Response to survey, August 2001)

Others also appreciated the way that support was available on a one-to-one basis, and noted their appreciation that discussion was in non-technical terms and that the coordinators showed patience when a newcomer to the technology needed to be walked through a process by themselves:

> The other feature for me was the willingness of the coordinator of the project to sit with me at the computer and lead me through the process of establishing my own project. If I'd been left to do so myself, I'd have soon become discouraged. (BK, response to survey, August 2001)

The encouraging environment seemed appreciated:

> [I liked] Small groups, planned sessions (easy to drop in to relevant bits), working with others dealing with the same things, very non-threatening and relaxed environment (it was ok not to know things or to have forgotten things - hooray!!!) (AH, response to survey, August 2001)

On one occasion when working with staff from the City Campus, the author took the opportunity to tell a story about her early use of computers and the difficulties she had experienced using them. The story was extremely well received and the author was emailed by a number of members of the group saying how comfortable they felt in working with her and how they would not ever have to feel stupid asking questions of her - a feeling that they might have experienced had they been assisted by a technical expert.

> Ever since I heard your story about using the mouse upside down I am not afraid to ask you anything!
>
> Thanks again for all your encouragement. (BH, email 10 Nov 2000)

It appears therefore that the strengths of the project are the fact that we are academics rather than technicists, that we are interested in the pedagogy first and how the technology can support it second, and that we are always ready to support staff as needed. However, we still have a number of challenges ahead of us.

Challenges for the eChange Project

At time of writing, of approximately 60 teaching staff members, 70% are either expert users of diverse ICT in their teaching, or are developing their skills at using ICT in their teaching. The remaining 30% are non-users for a variety of reasons. One of the major challenges of the project is to clarify whether it is essential to ensure this remaining group of staff members embrace some aspect of ICT in their teaching. As coordinator of the project, I, myself, am a critical user of ICT and feel that many of the claims about its value in enhancing pedagogy are, as yet, untested (Schuck, 2002). However, I also feel that for staff to make a judgment about the value of ICT for their teaching and their students' learning, it is necessary for them to do so from a position of knowledge. Most of the current non-user group fall into the original group of non-users who were against the use of ICT in their teaching. While some of these staff members quite justifiably doubt that the use of ICT will enhance their teaching, my concern is that this opinion is as a result of a mindset rather than based on evidence. Others in the group have been positive about the project and expressed interest in, and appreciation of, our efforts to support them, but simply lack the time to embrace any of the changes available. For them, it is clearly not a priority in an already overwhelming workload. Finally there are a small number of staff who will be retiring soon and feel that the overheads in learning new technologies and changing their approaches are greater than the likely benefits to students.

The question does remain as to whether it is essential for every member of staff to be aware of the new technologies and what these can offer to them. Where a staff member is promoting learning that is effective and fits with current notions of good practice, the gains in using the new technologies might be minimal. The eChange Project does stress that ICT should only be used if they will enhance learning, not simply because they are available.

Another challenge is to create opportunities for staff members to share their experiences with each other. With large work commitments, many staff prefer to operate on a just-in-time basis, requiring help as they use a particular electronic technology rather than developing a full understanding of the technology and its potential in advance of its use. This creates pressure for the eChange agents who only have part of their workload dedicated to the project.

Maintaining interest is a final challenge. As the world of technological innovations is expanding so rapidly, we cannot afford to develop expertise in one area and ignore other opportunities that are created by the development of new technologies and the increased access to them.

Conclusion

We believe that our eChange program has been a success to date. We have more than half the staff involved in presenting subjects where ICT is incorporated. We have another committed group of staff who are reading and discussing the literature in this field and experimenting with new applications of ICT. Some of them are using electronic technologies in cutting edge applications. We have recently received a number of external research grants which are enabling us to research best practice and, we anticipate, eventually to influence the development of ICT in the wider teaching profession.

In line with what we know about managing change, however, we also believe that the process is not yet complete. Despite a difficult financial situation in our faculty the eChange project will operate over this year to offer support to newcomers, those who are just developing their skills and those who wish to open up new areas of investigation. We will also encourage the group of non-users who are interested but have not yet seen opportunities for themselves to get involved.

It is our belief that our experiences, both successes and frustrations, are of value in developing thinking about professional development in education faculties. The opportunities to share these with a wider audience should enhance professional development opportunities in education for us, and for others who are about to travel the same path.

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[1] Staff were asked for permission for their comments and postings to be used in papers and presentations about the project. They were assured that they could withhold their permission without any need to explain why. All staff involved appeared to be satisfied with the use of their material. Papers written about the project were made available to staff before publication/presentation.

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