

8. Technology in Teacher Education

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Abstract

Alongside unparalleled developments in information technology, we are also witnessing changes in teacher education of Copernican dimensions, at least to the extent that the place of "the academy" at the centre of the teacher education universe is being challenged. The conjunction of these two phenomena, one educational and one technological, leads to exciting possibilities for synergy. If teacher education is well-placed in teaching context, what is the role of technology in supporting the processes involved? We shall approach the question from two perspectives: **the educational**, which says: These are our aims, how can technology help? - and **the technological**, which says: These are our machines, what can we use them for?

A place in the human sciences

I work in TESOL teacher education, mostly at master's level, and mostly in distance learning mode (See Richards & Roe 1994). This makes me very lucky — not only in terms of the colleagues and course participants with whom I work, but also because I find this work and what we are trying to achieve through it to be completely in tune with what we are hearing about learning from so many sub-disciplines of the human sciences. From philosophy (e.g. Rickman 1976), from cognitive science (e.g. Brown, Collins & Duguid 1989), from applied psychology (e.g. Argyris & Schön 1974, Schön 1983), from ethnography (e.g. Geertz 1983), from action research (e.g. Altrichter et al 1993), from critical pedagogy (e.g. Giroux & McClaren 1989) and from TESOL itself (e.g. Clarke 1994), the repeated message is that the human sciences are escaping the dead hand of such scientific concepts as cause/effect, nomothetic laws, proof/disproof and theory/application. They are escaping in the direction of the sensitive and informed investigation of specific experience (e.g. Denzin & Lincoln 1994, Edge & Richards, forthcoming).

This investigation is often in touch with the academy, but cannot take place inside its walls. We are not talking about *experiments* here, we are talking about *experience*. Let me now bring you back to my own work experience because, for me, two points flow from all this.

First, distance education is arguably **the** appropriate mode for non-initial teacher education. (Or, in the same way that Somekh (1993) says that it is becoming

difficult to take seriously educational research that does not at least contain some element of action research in it, I would say that it is becoming difficult to take seriously teacher education programmes which do not at least contain some element of distance education in them.) And once we are involved in distance education, we are involved in technology.

Second, that the role of technology cannot be to deliver knowledge from the enlightened centre to the benighted periphery according to some crude transmission model. We are not talking about correspondence courses with packets of information being sent out to learn, because the centres of knowledge production are there where the learners are engaged, and it is the academy which is at a distance from this knowledge production.

So, we are involved in the appropriate use of technology, broadly conceived, towards the furtherance of learning process. I now turn to the issue of my relationship with technology.

Relationships with technology

In one sense, we know well enough in TESOL the answer to questions about the best form of methodology. The answer is: '*Well, it depends.*' And on all sorts of things. I think that the same is true of the role of technology. It depends. What I want to do in this talk is to establish a framework for trying to make a little more sense of that eminently defensible and gloriously unhelpful answer.

I want to suggest two perspectives:

- **an educational perspective**, which says: These are our aims, how can technology help?
- **a technological perspective**, which says: These are our machines, what can we use them for?

In exemplifying answers to these questions, I shall draw on my own teaching experience on Aston University's distance-taught *MSc in Teaching English*. These *examples* will not be yours, of course, but I am hoping that the *perspectives* might be useful.

Examples of the educational perspective

Among our aims on the MSc course is the deepening of participants' awareness of their experience, and of the development of tools for the analysis of that experience.

We find that the writing of our own print materials, still our main form of teaching, remains highly valued by our participants. In brief, the fact that these materials are specifically written by the person in charge of each module enables the development of a teaching “voice” in the materials which differentiates this reading from the books and papers to which participants are referred. The voice arises in part from the general approach to the production of the materials: first determine appropriate targets for the participants, then devise suitable tasks to lead them to these goals, then write the necessary “content” input to serve these tasks and goals (Richards 1994). But the voice is also individual and personal and, despite a thoroughgoing re-write of all materials for a newly modularised version of the course, we decided as a team of colleagues that we did not want to develop further any element of “house style”, because we are individual teachers, and the best way that I can teach is not going to be identical with the best way that my colleagues can teach.

For the participants, print materials are highly portable — we use loose-leaf ring-binders in order to make it easy to break components down into units — as well as being easy to access, augment and refer back to. At our end, word processing makes the materials easy to update.

In other words, we regard the Gutenberg revolution in communications technology as still being of central relevance to what we do.

Another major teaching act in distance education is the giving of feedback on participants’ written assignments. This is, I repeat, one of the major *teaching* acts of the distance tutor, in a way which far exceeds the concept of “marking assignments” with which face-to-face teachers are familiar. The participant has, after weeks or months of work, sent off a piece of writing to that distant (note that distance operates in that direction, too) and probably unknown place from which evaluation will come. It is a lonely wait, no matter how many others are in the same situation.

Drawing on work initially done in the Open University (1988), we hope that a participant will want to respond positively to the following propositions:

The feedback:

- 1) seems personally addressed to me.
- 2) encourages dialogue.
- 3) encourages further learning.

- 4) clearly explains the strengths and weaknesses of the assignment.
- 5) justifies and explains the grade given.
- 6) shows how I can improve my work.

The system I came into when I first started this job in 1990 involved sending out written feedback. Given the importance of this aspect of the work to my teaching, I decided in 1992 to make it the focus of an investigation into my practice.

For present purposes, I want to highlight just one of the issues that came out of this. If anyone wants to look at the investigation in more detail, it has been written up in the TESOL-France Journal (Edge 1995). The essential outcome here is that I shifted from providing my feedback in writing, to providing it on cassette.

From my point of view, the advantages have been obvious:

- Quantitatively, there is so much more language available to use in the same time. This simple fact facilitates important qualitative effects.
- Qualitatively, my role as reader is transformed. I am, quite simply, more *involved*. During my initial reading, I find myself much more relaxed, and consequently more able to suspend judgement of where the writer is going and of what he or she has to say. Similarly, once I got used to imagining the participant and addressing the tape recorder, I have felt much closer to the person I am communicating with and more able to express exactly what I want to say. I am more likely to include praise in passing and, equally important, it is easier to be critical and to offer advice in ways which the informal familiarity of speech and the paralinguistic features of the spoken voice can make acceptable and usable.

For me, the technique proves both efficient, in that I spend less actual time on each assignment than I did, and effective, in that I am doing what I want to do better than I did. In a culture which has all but abandoned the latter goal in a misguided quest for the former, this is particularly satisfying.

What I have tried to exemplify here is the developing use of technology to meet given educational purposes. "*Technology?!!???*" you may cry, "*He's talking about printed paper and cassettes!*" Well, I would assert, what I'm trying to do is to talk about a developing use of technology to meet educational purposes.

Do we have e-mail, web-sites, net-crawlers, video-conferencing facilities

and the like? Indeed we do! Indeed we do! But to start from there is to shift to the other perspective.

Examples of the technological perspective

At first blush, this seems the ugly one. This is the one we have to watch out for. This is where we get trapped into doing things just because there's a machine for it.

But as an educationist, I would say that we get trapped into such situations precisely because we do not address this perspective with the attention it deserves. The exploration of what I have called the technological perspective too often gets left to people for whom the use of technology is the end, and not the means we wish it to be. The challenge for us is to get involved. And from the involvement comes an almost cybernetic development which arises from the fact that the context in which we live is no longer what it was.

Electronic mail, for instance, is having a definite effect on my communications with participants which I cannot yet properly characterise. In the 1994 Paris group, my main responsibility, one person had e-mail. She was happy to pass messages on to the group and from the group. She got newsletters and other information earlier than other people. As far as I could tell, the group did not regard her as unfairly privileged, nor did she regard herself as unfairly used. It was simply accepted in the way that having a telephone might have been accepted in an earlier generation.

But there is more. While the number of messages which I exchanged with this participant was greater than with others, it did not seem to me that I was 'spending more time on her' than on other individuals. After one set of exchanges, occasioned by my feedback on her first assignment, I asked her if she thought that she wrote more because of e-mail than she otherwise would.

She replied that she would probably have written as much anyway, as long as she had a word-processor, but that there might have been delays and second thoughts regarding the printing and sending off of the letter. She went on:

So, what does this say about my feelings about e-mail? Probably that, although it's written like a letter, it feels more like conversation, because of the immediacy of the dispatching and the chance that the response will come fairly quickly, sometimes almost immediately. It's probably the best form of communication that I know for anything above social chit-chat. Almost as fast as the phone, but with the advantage of not putting someone in a difficult position by forcing them to answer an awkward question on the spot.

And from e-mail, it's an easy move to join a discussion group such as TESL-L, now I believe the largest unmoderated electronic discussion forum on the Internet (Tillyer 1994). And if you've joined that, you can order up archived TESOL documents and subscribe to an electronic journal. The discussion documents are as accessible to course participants as to course tutors. As are the discussion groups.

The pressing question is, how could these technological possibilities *not* be of educational significance? The challenge is to get involved and help determine the educational outcomes.

On the e-mail front, the increasing number of participants worldwide who have access to e-mail led me two years ago to set up an international list, so that course participants could link up to discuss issues of interest on or off the course. There are now nearly 40 people on the list. We are at present putting in place a series of e-mail groupings around individual course modules which participants can sign up to as they follow their individual learning path through the programme.

E-mail, then, is enhancing our communication possibilities both in terms of tutor-participant communication, and autonomous, inter-participant collaboration across huge geographical distances. The only way to have a say in how these possibilities develop is to be involved. At the same time, I am not at all tempted to give assignment feedback by e-mail, quick as its delivery would be, because that would be to misunderstand what I have learnt about the importance of spoken language in feedback.

So, here I stand, trying to do what I can about the quality of my teaching, and wondering how an involvement with the newer technologies is going either to help me or get in my way.

Working for quality

Based loosely on Pirsig (1992), I offer the following as a possible way of thinking about the two perspectives I have suggested above:

- The educational perspective encourages us to enhance the *static quality* of our programmes (i.e. do what we do better).
- The technological perspective encourages us to enhance the *dynamic quality* of our programmes (i.e. break through to new possibilities).

These are not either/or choices. We have to offer static quality in order to provide the security which is the learner's basic need, and which learners have the right to expect from us. We have to offer dynamic quality, not least because it is the lifeblood of teacher development, and the developing teacher educator is a required model for the developing teacher.

Nor is it the case that any one mix will be "the best" mix. As I have already said, this is something we ought to know about in TESOL. As with all our teaching, and as with all debates on technology, what is appropriate will always be emerging from each current situation. My comments above on the appropriacy of purpose-written print materials arise from a situation in which we have a highly successful programme functioning around those materials. That is not to say that the best first step when starting a new programme would necessarily be to start writing a set of such materials.

Certainly one position in the literature (Bates 1984:230) is that it is more difficult to move a successful programme into new technology than it is to start from scratch:

'Any institution which can move gracefully from its current position to one where new technology plays a more central role will have combined the daring of a free-fall parachutist with the balance of an ice-skater.'

At Aston, of course, we expect no less.

For me, none of what we are discussing lies far from Stevick's (1980:33):

...the student's place is at the center of a space which the teacher has structured.

And whether that space is geographically distant from the teacher, or indeed, somewhere in cyberspace, we are still trying to use our '*control*' in order to enhance learner '*initiative*'.

I hope that the two reference points I have proposed — the *educational* and the *technological* — along with the complementary concepts of *static quality* and *dynamic quality*, might be helpful as we all consider our next moves. Starting, of course, literally and metaphorically, from where we are.

Biodata

Julian Edge has been involved in TESOL since 1969, and teacher education since 1978, living and working in Europe, the Middle East and South-East Asia. He has a doctorate in discourse analysis in the context of TESOL teacher education, and his publications in the field include *Cooperative Development*, *Essentials of English Language Teaching*, and *Teachers Develop Teachers Research* (with Keith Richards). He now teaches on Aston University's distance education MSc in TESOL, with special responsibility for participants living in France.

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