

Changing university teaching and curriculum:

Points of reference for university teachers

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Quality teaching and quality curriculum are deeply intricated and interwoven. However, efforts to enhance students' experience of university tend to focus on the improvement of teaching and curriculum development as if they were somewhat disparate activities. The discourses of university teaching, university curriculum, and the curriculum field pass like ships in the night.

The aim of this research was to begin to understand how enhancing teaching constructs changes in the curriculum as it is experienced in practice.

There is a raft of questions implicit here. How does the focus on changing teaching in staff development change the ways in which staff relate to students? How does this focus change the ways in which knowledge is interpreted, organised and engaged in and how is the dialogue between teacher and "taught" different? As well as studying how changes in teaching diffuse through and relate to other educational sub-practices (administration, staff development, evaluation and research), the study examined the points of reference university teachers use in reflecting on their practice. What constructs the aspiration and intention to change? Aspiration and intention are framed and occur amidst the exigencies, habits and customs of political life. What does the real politik of university life nurture and inhibit in teaching? These understandings are crucial to informing and revitalising academic staff development and curriculum change in universities.

The questions foreshadow a vast project, but here we focus on the ways in which university teachers perceive the curriculum to be changing as they work on the enhancement of their teaching. In the past, most research on curriculum change has been school-based and is not readily extrapolated to universities. However, pressure from government and industry for higher quality graduates, student demands for better learning experiences and technological and social pressures are challenging traditional teaching and curricular approaches as well as traditional understandings of teaching as an adjunct to research. Using Blenkin, Kelly and Edwards' (1992) descriptors, Shepherd (1999) argued that changes to university curriculum tend often to be closer to curriculum renewal than to the more significant changes of curriculum innovation. But how are these driven by the focus on changing teaching?

We used participation in the Graduate Certificate in Education (Tertiary Teaching) (GCTT) offered to staff at James Cook University as a way of identifying teachers who have made changes to their teaching in recent times. Clearly this does not exhaust the group of teachers who have brought about change in their work, but does constitute an interested group who have the beginnings of a shared language for talking about changing teaching.

Our aim was not to evaluate the GCTT, but we planned to develop our understandings about teaching and the way the curriculum of the GCTT intersected with the professional lives of our colleagues who participated in the course. We wanted to explore the points of reference teachers found influential in bringing about changes in their practices. We expected the GCTT to be one of those points of reference, but we were curious to discover how it was positioned among other influences.

Other research has identified a range of key influences on teachers' aspirations to change their practices. For example, participants in McKenzie's (1999) study, described the importance of engagement with relevant literature, discussion with colleagues, and critical reflection. These practices were features of the GCTT, but we wanted to know how its curriculum intersected with other influences such as awards for teaching, the nature of 'risk-taking' in bringing about change, support for self-reflection in teaching settings and for networking with colleagues, and better access to theories and frameworks for discussing teaching.

We also sought to understand how the formal curriculum functioned as a steering mechanism, as an enabling device (or impediment), and as a condition of work for university teachers. By way of example, intuition suggests that didactic teaching and induction into the organised body of "content" knowledge of a discipline seem to be bedfellows. An emphasis on the methodological syntax of a discipline seems likely to inspire more dialogical forms of pedagogy. In other words, the meaning of a discipline is inscribed in the concrete particulars of interactions between "teacher", "teaching materials" and "taught". That is, we were interested in the way teaching enacts meaning(s) of the intended curriculum (itself contested turf) in teaching situations. We saw the intended curriculum as an incompletely stated theory of what is worth knowing, what is teachable, and preferred relationships between teachers and taught. In this view, teaching is the way the theory comes to be understood, and examined for coherence and defensibility.

Our initial focus, the basis of this study, was on teachers' accounts of the enactment of the curriculum. McKenzie's (1999) work indicated that teachers who undergo conceptual change see teaching as the creation of contexts which enable students to experience their world differently, and implies that curriculum change would accompany such conceptual change. So we explored students' views only as they manifest themselves to teachers informally in teaching situations, and formally, from the James Cook Evaluation of Teaching (JCET), for example. Our primary concern here was with teachers' agency in teaching and curriculum change and their perceptions of what was happening.

Much of the current literature about university teaching represents teaching as an isolated act, somewhat disconnected from the other sub-practices of education, and the socio-cultural setting in which all are formed and informed. Yet social and cultural contexts may encourage or constrain change. University teachers operate in contexts that demand higher productivity, cost-effectiveness, accountability and technological change. Such contextual factors appear to increase workloads, impose time constraints and impact on academic practices, including teaching. Similarly, social factors, including the increasing cultural, social and economic diversity of student populations and increased student demand for subjects or courses to meet their needs pressure teachers to consider the needs of a wider variety of students. However, at the same time, it has been reported that teachers can sometimes operate in social contexts where there is pressure against change in teaching, especially when research is valued more highly than effective teaching.

Data collection

- In-depth interviews were conducted with sixteen GCTT graduates in order to explore the key themes and issues .
- Surveys based on some of the concepts developed in the interviews were also sent by mail to 80 participants in the GCTT. 23 surveys were returned.
- A group of six teachers were interviewed in a group situation. The teachers represented a range of disciplines - tropical savannas, engineering, microbiology/ pharmacology, music, nursing science and sports' science.

The interviews, survey and focus group discussions were structured around the theme of influences on changing teaching and curriculum.

The teachers' voices

Here we present the university teachers' views about influences on their teaching and curriculum. We have structured their words around some key themes which arose during our interaction with them.

Teacher agency and curriculum representation

The focus group consisted of a selection of university teachers who had elected to study in the GCTT, so it is little surprise that they were interested in changing teaching. There were influences on the changes, which we will discuss soon, but sheer interest in teaching was an important factor. Many teachers said that changes they had made to their teaching had changed the ways in which knowledge of their various disciplines is interpreted, organised and engaged. The initial pass at talking about teaching and curriculum change tended to bring out changes in teaching. Several teachers said that their delivery of the curriculum has moved away from the direct presentation of knowledge, towards an expectation that students will become actively engaged with the subject material. Instead of using lectures for didactic purposes, some teachers had changed the format and were actively promoting student participation and interaction.

I think my lectures have moved to becoming much more interactive . . . they're certainly not didactic. In a full lecture theatre . . . the last thing I'll be doing is standing behind a lectern. I'll be moving around. I'll be asking questions of people (Nursing teacher).

There's no lecture notes. There's no lectures per se. We have discussions for a couple hours per week. . . . They're guided by learning guides that are available on the internet, one or two texts books and photocopies from other text books that are the readings that they're directed towards, a set of questions that they're expected to be able to answer at the end of each week, and our discussions basically are about what can't they do (Engineering teacher).

I now ask them a lot of questions and they shoot questions back, which I like

(Sports science teacher).

Although the teachers themselves tended to focus their discussion on the teaching act, their comments indicated that the representation of their disciplines that they offered to students

had changed. Rather than presenting an apparently fixed body of knowledge to students, they tended to offer knowledge in ways that allowed opportunities for students to process information, to engage in problem-solving and to apply information to real life situations. What was worth knowing was identified as having relevance to students' future careers and as being able to provide students with solid foundational knowledge for professional practice.

Efforts to sophisticate undergraduate students' views of a field were not always successful. Rewarded for surface learning in previous educational encounters, they were not always responsive to less didactic teaching:

[Students] are not provided with answers, but are encouraged to see the wider window and to be systematic and holistic re the issues and analyse them the complete way. Some students do not scratch the surface of their views. You can see it in students' eyes whether they're with you - when they understand the wider picture and light up. For some students the shutters come down.

(Tropical savannas teacher)

- **Two faces of vocationalism**

There was extensive commentary indicating that the traditional practice of inducting students into a discipline would not wash these days. Few students were willing to submit to the authority of the text in this way, and most insisted on more concrete justifications of their learning experience. Teachers strove to make the curriculum more 'relevant', that is, job relevant, but often because students seemed to demand it. Several teachers pointed out that changes were aimed at developing career-oriented skills, especially in courses aimed at specific careers and professional practice such as engineering, nursing science, social work and medicine. But it was evident in other disciplines too. Teachers may have been motivated to do this, especially in the professions, but it seemed clear that student insistence meant they had little choice:

I use a problem-based approach as much as possible so I use case studies and apply it to real world scenarios. Working in a clinical environment, you tend to bring in those vignettes and give the students scenarios to explore. And I think that's probably the most powerful way that students can learn (Nursing teacher).

To get them developing some habits of a professional nature early . . . that they can carry on into later years. Professional practice requires reflection and technical content. Generally what engineering has done for the last thirty or forty years . . . Fill them full of facts, set them exams and get them out the other end, and then they can learn about professional practice and become engineers. And generally they start to think like engineers when they start to get paid like engineers. Um, that's gotten a bit better. . . . they start to get a little bit more oriented towards, I'm almost a real engineer, I'd better start to act like one and think like one. What I'm trying to do is drag that back into first year. (Engineering teacher).

There are no rules about the knowledge - the most important thing is that they make decisions in the real world (Accounting and finance teacher).

I get feedback a lot from my students and I also utilise feedback from my graduates who are in jobs it would have been good if I had had this skill or I'd developed this a little bit more. So then I go back and work this into the degree I've set up two

new degrees with demand from students and graduates ... looking at how we can help them with joint degrees so that they have a more valid skill base for employment prospects (Sports science teacher).

In professional programs an enhanced orientation of their curriculum towards career and professional practice probably comes as no surprise, but teachers from other disciplines said that their focus was changed by an invigorated job consciousness among students. Students were often given opportunities to enhance their knowledge through the interplay of theoretical and practical knowledge but especially to gain insights into possible future career opportunities:

This particular unit is increasing in its demand because some students can now see that maybe this is the germ of a career pathway for them. I think they're more motivated because in this fairly hard-nosed world, they can see that in this particular stream of activities, that there is a package that they may be able to apply when they get their degree at the end of the university period. That could lead them into a role as a consultant or in some other range of activities.

(Tropical savannas teacher).

It really motivated them. They all enjoyed it. They were lively, turned on, full stop. (Tropical savannas teacher).

Not just having an understanding of something, but being able to apply it to a real world situation relating back to career, but it's also, I guess, relating back to a deeper understanding of the material that you're delivering (Sports science teacher).

And so by the time they get to third year, we're using fairly complex case studies, which require them to incorporate a lot of theory and practice (Nursing teacher).

I'm not sure that it's being represented differently, but with a different focus. I think it used to be presented as "This is just interesting to know", and now it's more "This is interesting to know and it can be applied to x, y and z."

(Physiology teacher)

Influences were not simply vocational. For example, a decision by a tropical savannas teacher to apply adult learning principles to a sub-unit on the revegetation of degraded sites resulted in its transformation into a simulation of the consultation process. Instead of following 'a fairly traditional practical process' which incorporated a three hour practical, a lead lecture and a closure, the exercise became a simulation of real world consultancy. The students became involved in a simulation game, where they worked in groups and took on roles within an imaginary consultancy business. At the conclusion of the unit, the students presented their findings. Whilst the major changes in the unit were related to the mode of delivery and the ways that students were able to locate, process and translate information, the curriculum was being represented through opportunities to learn about real life problems and about the applicability of learning processes to real life situations. The andragogical impulse too was translated into vocationalist practice.

The commitment among staff to work closely with the professions helped to keep the undergraduate curriculum focused on future employment:

I do a lot of extension with tour operators, park rangers and the like ... that context is much more informal and interactive participation. . . . The rangers are not interested in sitting in a lecture (Tourism teacher).

I'm teaching much material that I'm exposed to from government committees. I use real examples, and I also link these with current theories. My research is linked to teaching. . . . Theory is essential (Tropical savannas teacher).

Service teaching was caught up by the new ideology. Efforts to teach the same physiology to biomedical science and nursing science students together were beginning to falter as both staff and students succumbed to the vocationalist impulse. Students wanted 'relevant' examples, but even the best efforts by staff to provide them were becoming unsatisfying for students.

Beyond surface learning

There were some curious spin-offs in student enthusiasm. The move away from content-centred didacticism and exams emphasising recall caused an engineering teacher to report:

Most of them at the end say: This is really rewarding. All of a sudden I discovered that I don't have to study anything for this subject because I understand it all. I've written it all down, I've done all these questions, and I can explain it all back, and so this is one subject I don't have to study for.

Student enthusiasm for more active learning was widespread when teachers got beyond students initial anxieties about their new autonomy and responsibility. With increased engagement came deeper understanding:

[The students] are looking beyond . . . just taking on information to being able to apply it. They are getting more involved in the learning experience as well (Sports science teacher)

They like just having an understanding of something, but being able to apply it to a real world situation. It relates back to career, but it's also, I guess, relating back to a deeper understanding of the material that you're delivering (Sports science teacher).

Depth also seemed to lead to diversification of student achievement. Take the example of music, which has tended to provide a strong induction 'into an academic-based discipline'.

We're trying to go much more deeply through the processes, so the end product will be different every single time. But it's developing those skills to perfect the process. (Music teacher)

Students were taking on more responsibility for their learning by choosing learning challenges for themselves and becoming more independent.

The teaching challenge is not communicating information - it's creating enthusiasm for the end point so that they get something out of it. (Indigenous education, science, teacher)

- **Not all plain sailing**

Efforts to move beyond content-centredness were not always welcomed. The exchange of surface learning for classroom compliance did not die an easy death. Sophisticating the teaching and learning interactions was not easy. Lecturers reported that students found the transition into thinking like a professional quite difficult:

I am constantly reminding them that this three or four year time at university is a very short amount of time and it's a long road and a lot of things that one needs to develop to succeed in this 21st century (Music teacher).

We're endeavouring through the curriculum to develop in our nurses on campus a sense of what nursing is about, in terms of its professionalism, its contemporary nature, the strong focus upon ethico-legal issues . . . teaching them about issues such as caring. It is very difficult to do that. . . . We do build in reflection . . . and they have to think about practice, think about what nursing means within the 21st century. (Nursing teacher)

Diversification of assessment practices

The focus on outcomes for professional practice has influenced assessment practices. Changed views about what is worth knowing have led to moves away from examinations. For example, the music teacher introduced a practice journal for performance for music students. The students keep a record of their ensemble, choir and orchestra performances, reflect on their practical work and question what they set out to achieve. By doing this, the practice journal leads students to document and reflect on their work, thereby enabling them to map their progress. 'The overall process is to prepare, perform, reflect and analyse'. The account of the reflective analysis constitutes fifty per cent of the total assessment. Self-assessment is becoming an important theme:

They are encouraged and instructed to become more independent and what it's done is that it's made the students feel more involved in the way that they're getting assessed, because a lot of the assessment is based on their own processes and they're documented. (Music teacher)

Disciplined reflection is appearing in many courses:

We have the journal, which is worth ten percent, which is about the only place they get to do something that is not a closed answer. . . . we're moving more towards not examining them in mathematics, which is traditionally what we examine. . . . we're not interested in the math now, so we get them to set up the equations and discuss the implications (Engineering teacher).

On-course assessment has reduced the weight of end-of-semester exams. The shift in emphasis was a function of changed curriculum aspirations, but also illustrated the need to cope with a diverse student population through a move to student-centredness:

[The aim is to] give the range of students the best opportunity to show what they know and what they're capable of. So some students perform better in on-course assessment than in examinations and we felt that we were probably . . . biasing the assessment against that group of students by having exams which we used to have weighted at seventy, sometimes even eighty per cent of the subject. So we've reduced it to try and give everybody a better opportunity to show what they're capable of doing (Physiology teacher).

External curriculum control

Changes that have been made have not been tension-free. There has been some tension between the aspirations to change curriculum and assessment and the need to meet the requirements of professional and government bodies, especially in the situations where the curriculum is externally defined.

Our curriculum is driven largely by the Queensland Nursing Council. It's a prescriptive curriculum. They have to . . . ratify our curriculum so we can't make wholesale changes without getting approval by the Queensland Nursing Council, so it's in a sense a national curriculum (Nursing teacher).

It is mandatory. It is a prescribed course of foundation knowledge blocks. . . . Thus I don't have a free hand. . . The curriculum is constraining. There are stringent requirements by the nursing body (Nursing teacher).

Because we're being compared to every engineering school in Australia, we need to be careful to have fairly traditional sort of outcomes in terms of students can do this and this and this and they can answer questions about these things (Engineering teacher).

The criteria for the curriculum is set by the World Occupation Therapy Association and the World Federation who accredit the course. . . . The outline came from the head of schools, but we have autonomy in the mode of delivery (Occupational therapy teacher).

The Australian Medical Council accreditation board sets fairly strict guidelines (Physiology teacher).

There is an awful lot of content that we have to cover for accreditation (Accounting and finance teacher).

This contrast between the controls on more traditional discipline curriculum in 'generic' degrees and the control of the professions on the curriculum was explicit in some cases. For example, a teacher who taught to both 'discipline' and 'professional' groups of students pointed out that students in courses that do not have a specific career focus tend to be less goal-oriented. She sees this as a situation that gives more latitude to staff to make decisions about curricular content.

They're kind of interesting to work with, because they don't have a real target in terms of what they want to do at the end, so they're less focused. They're less sure of what they want out of things.... I suppose, that gives us more freedom to do what we want to do with the curriculum, in that we don't have clear goals that the students are expecting to reach. They're here for a general education in whichever discipline they're choosing to major in or to sub-major in (Physiology teacher).

There have also been tensions between assessment through students' self-reflection and external assessment.

Because they're much more involved in their own assessment, in terms of the input, they quite often don't like the results from an external assessment point

of view. So it's quite a challenge for us in terms of finding a middle road, in terms of student input and external assessment. That's something that I think we need to work on for at least another twelve or eighteen months before we can get it right (Music teacher).

Because of the external constraints on curriculum, some staff argued that the changes had not been as broad as they could/should have been:

It's not really wide-ranging enough to call it critical thinking (Engineering teacher)

- **Student resistance**

There have also been tensions between staff and students' perceptions of what is worth knowing: 'Responsibility' and 'Critical thinking' were both examples:

It's a case of pushing as hard as you can to try and encourage them to stand on their own two feet as quickly as possible, via curriculum, also via the way that we teach them and the attitudes that we use in our teaching (Music teacher).

Some students seem to resist critical thinking. They don't want to and they don't see why that's important because they all show that they're capable of it, but some of them hold back from it (Physiology teacher).

When asked what are the students seem to be wanting instead, she went on:

I think it is the security of being spoon-fed. That's our challenge: if you're being spoon-fed, then you're robbing yourself of (a) reaching your potential and (b) getting the most out of what you're doing.

Students' resistance was attributed to the difference between school and university curriculum and expectations.

A considerable number of changes in our curriculum have been based on encouraging those abilities to develop, and some of the time it's tremendously difficult, because they've never thought critically to any great degree and they've never had to express that either verbally or in performing (Music teacher).

It is a moot point whether schools are failing in this respect. It may be that these university teachers stand out from other university teachers and that the contrast should be made not with schools, but within areas of the university curriculum.

Relationships between teacher and taught

We have already indicated the general form of some quite different kinds of dialogue between staff and students. When asked about changed relationships, the university teachers' responses ranged across affective aspects, commitment to work and the expression of responsibility:

They see me integral to their learning and I spend a lot of time with them on one to one and working very long hours. At the end of semester one each one of them came individually to say thank you for the participation and

commitment.... To know they regard you as a partner is the biggest thrill for any teacher (Nursing teacher, remote campus).

As a result of the changes in teaching that we've introduced, [the students] are encouraged and instructed to become more independent and what it's done is that it's made the students feel more involved in the way that they're getting assessed. That's made big changes to the curriculum, but it's also made them a lot more responsible and in control of their own learning (Music teacher).

With the move away from the expert-novice relationship and increased expectations that students will become independent learners, there appears to have been a change in the way that students draw on staff expertise.

They draw on me as a theoretical knowledge base and for professional experiences, but more and more these days - questions such as, How do I get started in this field or in that field? What do I need to do? What skills do I need? And so they're getting smarter in, not so much in terms of academic ability and knowledge, but more in terms of, alright, this is what I need to do to get to a particular point, what I have to study, and what practical skills I need. They know how to use staff and their expertise to get to that end goal (Music teacher).

Sometimes students asked different questions about the curriculum.

The level of questioning has gone from fairly basic things to questions like, 'If I was a consultant, what would the connection be with this particular case study that we've selected as a group and the sort of product that would be acceptable in the real world?' . . . So there's been an elevation of their view of where this could lead them. Their questions are much more oriented towards a real world situation, rather than just techniques (Tropical savannas teacher).

The influence of formal teacher training

The teachers described their participation in the Graduate Certificate in Tertiary Teaching with some enthusiasm. It seemed they were already aware that some changes in teaching were desirable, but the GCTT had provided skills, understandings, support and legitimation for reflecting on their teaching experiences and attempting new things. Some suggested that their involvement had given them the confidence and knowledge to do things which they previously would have regarded as too risky:

I'm more confident. I now give better tutorials and felt more able to take risks. I engage more in dialogues and I have become a better teacher. I am now more familiar with subject matter and delivery. Before, I was all over the place (Social work teacher).

It was just an overall feeling of a bit more freedom and a bit more confidence to try different things. I was told to be adventurous and try things and I did. (Sports science teacher).

We shared ideas about the teaching process. . . I had more confidence to be more experimental. (Family Services - Occupational Therapy teacher)

Many highlighted the effects of interacting with others about teaching experiences.

It was just the general experience of hearing other people's stories about teaching and experiences of what worked and what didn't work in their disciplines and it stimulates a whole lot of ideas. (Music teacher).

You need to get that interaction so you get that exchange of ideas (Tropical savannas teacher).

They suggested that being away from their day-to-day jobs and being able to devote time to thinking, reflecting, sharing and discussion was an advantage. All welcomed opportunities to talk with other people, especially across disciplines, regardless of where and when it occurred.

A lot of the time it's just talking to somebody in the hallway or sitting around outside when you're having a coffee and you're exchanging stories and hearing about students' experiences in classes (Music teacher).

- **Some shared teaching problems?**

The impetus to talk with colleagues was strong, but in addition to the desire to enhance the quality of student learning, other issues drew people together. The diversity of the student population was a recurring theme:

I think there's an enormous heterogeneity of students in this era . . . When I went to university there was two per cent of the population went to university . . . Now, I think, what are we up to? Sixteen percent or something like that? (Tropical savannas teacher).

We're getting them from a very wide intake and it means that the expectations on the education system are enormous. You've got to try and develop a series of experiences and programs that are going to, not necessarily standardise people, but allow them to maximise their very wide range of backgrounds and profiles. (Tropical savannas teacher).

My role with students is increasingly towards remedial work, in relation to basic English. This comes from the high school, their high school experience, but, you know, it does relate to the sort of OPs that you take within your course (Nursing teacher).

Students come along from very diverse social backgrounds and they don't leave that behind. They bring it into university with them (Nursing teacher).

There was a felt pressure from students for the curriculum to be relevant, up-to-date and to use technology, and staff wanted to respond to that.

Students are becoming more cynical about what they're studying and why they have to study it, related to career paths, and also related to the rapid changes in technology and the relevance of everything that they do these days (Music teacher).

Curriculum has to be relevant and it has to be up-to-date. And it's very hard when you're teaching a discipline that has a history dating back to the Renaissance or pre-that, for them to see the relevance of that in today's society. So we've had to make quite radical changes to particularly history-

based subjects, to bring it in line with new attitudes with what the 20th century means in the arts and in music (Music teacher).

What they come expecting is that a lot of this sort of technology will be incorporated. They come from a technological world and I think they expect technology to be present . . . they do expect to be entertained to some degree. I have that strong feeling that they're not happy to sit and listen to people (Nursing teacher).

Discussing these issues with others was reassuring. Conversely, concerns about pop culture and the 'standard' of students entering university were also expressed.

It's really easy to pander to the high school based push, which is, this is the way we are doing things, and this is the way kids are growing up with a short attention span mode of learning and experience . . . We need to look at professional practice and we have to look at the real world and prepare students for that. If we go the other direction and make everything an MTV course, then you'll get students who will channel flick and they'll pick up thirty seconds here and thirty seconds there and they don't have a coherent professional knowledge when they leave which is a disaster for most of the professions (Engineering teacher).

[University teachers] have been trying to help the medical students deal with the fact that they do have to have a year's worth of knowledge and thinking at their fingertips, at the end of the year . . . apparently many of the high schools assess in four week blocks, so you learn something for four weeks, then you get assessed and move on to the next four week block (Physiology teacher).

A frequent concern which participants found useful to discuss across discipline boundaries was assessment. The changes to curriculum people had implemented often invited different assessment practices, but here knowledge of legitimate alternatives was at a premium. Student anxiety about assessment was an important issue too:

They're very very interested and even more concerned about assessment processes (Music teacher).

- **Insularity, loneliness and alienation**

The reality of life as a university teacher is often that of limited contact with colleagues, a syllabus and assessment regime determined by others, and sometimes quite fragmented relationships with students. This generates a sense of lack of control, which is remedied to some degree by contact with others. These teachers commented on this phenomenon:

Assessment is set out in the distance education packages and so I have no control over it. (Social Work and Community Welfare teacher, remote campus)

I only do parts of existing subjects. The staff talk to me and ask if I could cover this aspect of that topic. . . . I am a Research Fellow. That's the job. . . . I think it is false to see teaching and research as mutually exclusive as they are not (Research Fellow in Tourism).

The thing about education is that it is seen as a product. Here they use the electric kettle model of teaching - just plug it in. I don't seem to have that attitude that education is a product (Art education teacher)

People felt overwhelmed by work demands and increasing work complexity. Educationally desirable solutions or even more efficient solutions seemed sometimes to require a burst of energy people did not feel they had:

Problem-based learning is, in a sense, what we did last year. Students really enjoyed it but it required a lot of effort (Research Fellow in Tourism).

Technology offers us other avenues to enhance our students' learning experiences . . . unfortunately finding the time to utilise these resources is difficult. I also wanted to add that an academic must possess more than just an ability to research and teach. Now we must also deal with administration, budgets, marketing and consultancy (Sports science teacher).

I am required to do things that are not in the teaching role such as marketing, monitoring EFTSUs (Art education teacher).

The sharing of ideas with other enthusiastic about teaching seemed to offset a feeling that immediate colleagues were unsupportive (or non-existent in remote locations). Heavy workload were a universal concern, and sharing misery occasionally seemed cathartic at least:

I am upset by colleagues' lack of enthusiasm re changing their teaching. They say they don't have time, but we all need time to prepare (Research Fellow in Tourism).

I never really feel completely trusting, which seems pretty common in the university (Art education teacher).

I am out on a limb, being the only teacher (Nursing teacher, remote campus).

My discipline is traditional and historically-based and needs radical revisions, practical workshop and seminars in order to drag the degrees to the 21st century. . . . Two years ago, one-to-one teaching began to be phased out. This led to a staff exodus who saw one-to-one as the only effective way to teach. My PhD is about alternate strategies such as small group teaching. Literally demonstrating, there are several alternatives that have not been fully explored in Australia, which lags a long way behind Europe. . . . My PhD links theory with practice (Music teacher).

o **Physical conditions troubled people:**

The lecture rooms here are a learning experience. There are no laptop connections; cords have gone missing (Family Services - Occupational Therapy teacher).

I have taught in poorly designed rooms. One of the rooms in this building has six columns and one couldn't see all the students which made it hard to maintain eye contact (Research Fellow in Tourism).

The formal content of the Graduate Certificate of Tertiary Teaching was affirmed:

It taught me to connect assessment and objectives, clearer goals and make the assessment match that (Research Fellow in Tourism).

To teach effectively we need some theoretical understanding of the principles of adult learning. . . . The GCTT is wonderful preparation. I can't weight it high enough. New academic staff should be strongly supported to do it and it should be made available to everyone (Nursing teacher, remote campus).

I did the GCTT to refresh the whole interface between teaching and learning. I really enjoyed it. It touched buttons (Tropical savannas teacher).

The course stimulated reflection, and the discipline and support of group discussion made it possible:

It led me to reflect on my teaching a great deal. Last year made me think a lot about teaching. Why change? What could be different? (Research Fellow in Tourism)

- **Laying old ghosts**

Prior their involvement in the GCTT, several of the teachers said that they used some of their own teachers as role models and their own experiences as students to organise their teaching and assessment.

I enrolled in the 1998 GCTT . . . Before that I had modeled my teaching on my teachers and I remembered their lectures (Sports science teacher).

At first I had way too much assessment. I came from a Science degree and every prac class we wrote reports, so that's what I set them. My student struggled, therefore I reduced the numbers of reports they had to submit (Sports science teacher).

A community of scholarship in teaching

As other have found, cross-disciplinary contact is extremely important in the enhancement of teaching. These participants echoed this theme strongly.

It's also really valuable to have the experience of meeting people from other disciplines and knowing them afterwards. . . . That cross fertilisation amongst music and engineering, and music and physiology, who would normally never get together, I think it's really valuable (Tropical Savannas teacher).

You simply don't get a chance to talk with people from other schools and faculties. . . . you were there as a teacher rather than as a sports scientist or whatever it might be. . . . you were there actually talking about this common issue, about teaching and learning and how you could improve it. I think that having that common ground enabled people to bring a lot of their own experiences and did very easily explore the content of those couple of weeks. . . . I learnt as much from other people as I did from the GCTT teachers (Nursing teacher).

I learnt a lot about teaching by doing. You don't realise how much you know until you talk to someone else (Art education lecturer).

One feature several people commented on was the importance of mixing new and experienced teachers. People simply enthused each other. One experienced participant said:

It reawakened in me some of the enthusiasm and the insights that I'd virtually packed away (Tropical savannas teacher).

An inexperienced academic said:

I use student feedback from JCET, plus my own questionnaire. It has a big impact on my teaching. It's a reality check, why get 3 out of 10 for enthusiasm? I had to get beyond not being enthused by the topic and being tired by the end of the day. It led me to reflection. . . . I look at previous years' lectures and say to myself did I really get up and say that? (Music teacher)

Even staff from faculties where they had systematic reflective practice and mentoring in place found the opportunity to work with people from other faculties stimulating.

Conclusions

One of the key aims of this study was to see how changes in teaching were impacting on changes in curriculum. University teachers found this conceptualisation quite foreign. Whilst there are suggestions of curriculum change in much of the narrative above, it appears that 'curriculum' is often seen as something which is 'given'. Hence the emphasis on teaching throughout. We found that representations of disciplines and fields were generally not spoken about as being problematic. It seems likely that these debates are going on somewhere, but these teachers did not seem to have many degrees of freedom to vary curricula. Aside from the specific issues this raises about any rights university students might have to curricula appropriate to their increasingly diverse needs and abilities, the larger question about who 'owns' the university curriculum is relatively ignored.

Teachers could identify what constituted a 'curriculum of consequence' (McGinty, 1999) but felt powerless to implement it except in minor ways. Those who attempted to change the curriculum in any substantive way were sometimes regarded by colleagues and some Heads of School as 'not using their time to do serious research'. Too much focus on teaching was not a good career move.

Clearly some teachers are changing the curriculum. The way into this is laid open by the opportunity to talk with other teachers about issues of mutual concern and consequence in their teaching. The vocationalist ideology, the intractability of students, the diversity of abilities of students, and perhaps most important of all, an abiding curiosity about how subject matter might be taught better permeates discussion.

This curiosity is emerging in other Western settings. In the USA for example, Ernest Boyer's (1990) advocacy for the 'scholarship of teaching and the Carnegie Foundation have stimulated vast interest in teaching in universities. We don't see yet the institutional commitments to new curricula evident in the USA where Universities are committing to 'service learning': involving undergraduates in research and community projects which put them in closer contact with professors, graduate students and the community. 'Civic engagement', the 'engaged campus', 'partnership with the community' are part of the transforming rhetoric in the USA which followed the individual efforts we see emerging here. Such practices express key features of university futures: new relationships between university research, intellectual life, public discourse, and social practice.



Here we see university teachers engaged in a struggle to cope with difficult conditions and under-prepared students, adults and young people who simply cannot come to terms with conventional approaches to university learning. The changes they bring about are forged with great enthusiasm and modest amounts of institutional support. Curriculum changes are occurring, and their sources are numerous: a fascination with teaching, student resistance, vocationalism, pragmatic student demand all play their part. What we do not yet see is the emergence of institutionally and nationally supported reviews of the university curriculum. The revised role of the Australian Universities Teaching Committee to work on cross-institutional reviews of some specialist areas may be a first step, but perhaps it is an answer to too narrow a question.

References