Conceptions of Teaching with Integrity Online in Higher Education: a Case in the Field of Engineering

Stuart Palmer
Institute of Teaching and Learning, Deakin University
Geelong, Victoria, Australia
spalm@deakin.edu.au

Richard White
Faculty of Science, Health and Education, University of the Sunshine Coast
Sippy Downs, Queensland, Australia
rwhite@usc.edu.au

Dale Holt
Institute of Teaching and Learning, Deakin University
Geelong, Victoria, Australia
dholt@deakin.edu.au

Abstract: The viewpoints of academic teaching staff take centre stage in the analysis of the changing conceptions of what it means to act with integrity when teaching online. To teach with integrity in contemporary online-supported environments in higher education is not necessarily to teach the same as if one would in teaching regularly face-to-face in the classroom. The paper argues that to teach with integrity online is to teach differently. With integrity both enhanced and in some respects diminished in teaching online, the apparent contradiction can only be resolved through developing conceptions of what teaching with integrity means in the contemporary world of higher education. Implications are drawn in the context of teaching extended and wholly online units in the field of engineering.

Introduction

Teaching with integrity takes on new prominence and meanings when considered in the context of the strongly emerging online-supported teaching and learning environments of higher education. Universities continue to commit to the mainstream use of online teaching and learning for both their on- and off-campus students. Much evaluation continues to be undertaken on students’ experiences of learning with educational technologies. However, where do the academic teachers stand in relation to senior management imperatives to move online on the one hand, and perceptions of students’ desire to undertake more of their learning online on the other? This brings to the fore the issue of teaching with integrity in online contexts.

In the higher education literature ‘academic’ integrity is associated with honesty in relation to student conduct. The focus is on creating academic learning cultures which encourage students to act honestly in their learning and to minimise various forms of cheating on formally assessable work. In this paper we provide a different perspective on the meaning of integrity as it relates to teachers and teaching online. We are, in fact, talking about ‘educational’ integrity as related to online-supported, contemporary environments in higher education. Our orientation sees educational integrity as encompassing three principles relating to teaching online: coherence, commitment and competence. By implication, it suggests a new meaning in acting honestly or authentically in relation to one’s teaching values and beliefs in online environments. Moreover, we argue that teaching with integrity online must be considered at the individual, team, School and institutional levels. Of course, organisations themselves are strongly enmeshed in their external environments and their various impacts. In this paper, we outline the institutional and School contexts within which changing conceptions of teaching with integrity online must be situated. The voices of two now former engineering teachers, experienced in both classroom and online teaching and learning environments, are foregrounded in the analysis. The meaning of teaching with integrity online is explored in this context and the possibilities of the new digital media and online technologies outlined. With educational
technologies seen as both affording opportunities and creating problems for teaching and learning, reconciliation is approached through the consideration of a broader conception of what teaching with integrity online might mean. The implications for supporting teaching staff in their online endeavours based on such a conception are examined, along with implications for supporting student learning online and the organisation in creating and nurturing a culture conducive to learning, development and innovation amongst its staff.

The meaning of integrity in teaching online

Academic integrity is usually associated with various aspects of student misconduct and ethical matters related to research. The Oxford Dictionary defines integrity in relation to ‘honesty, incorruptibility, wholeness and soundness’. The term ‘wholeness’ is, coincidentally, intriguing given Deakin University’s commitment that every undergraduate student must study at least one unit wholly online as will be explained. What then does it mean to retain one’s ‘wholeness’ as an academic teaching professional when teaching ‘wholly’ online with no in-person interaction between teacher and learner? Integrity is a cornerstone of many professions’ codes of professional and ethical conduct, including the Engineers Australia professional Code of Ethics. To act with what we term educational integrity, we believe, is to act in a coherent, committed and competent fashion. By implication, we believe that each of these principles requires one to act honestly in relation to one’s values and beliefs and areas of educational expertise.

All of these dimensions have come to the fore in a recently completed strategic teaching and learning grant scheme (STALGS) project at Deakin University aimed at creating and sharing cases of good practice, ‘Contemporary online teaching cases: disseminating cases of innovative practices in the use of Deakin Studies Online (DSO) to enhance teaching and learning at Deakin’. While myriad approaches to teaching and learning were articulated by case participants, and various graduate attributes, technology features, tools and applications emphasised, all cases exemplified a coherence of understanding in using digital media and online technologies consistently with articulated conceptions of effective teaching and learning. All illuminated a commitment to using new media/technologies to create desired educational value and all of this was underpinned by case participants’ scholarly competence in their chosen fields. We therefore conclude that to act with integrity in teaching online is to have a coherent view of curriculum and pedagogical matters, competence in the enactment of these, as they relate to the affordances offered by the digital media and online technologies used.

It is not argued, however, that integrity once gained, is never challenged or changed. To have a strong sense of professional identity and agency, as professional-person-teacher, seems to be a never-ending process of struggle, particularly in an organisational and industry setting characterised by great and ongoing change. One’s sense of self as competent and committed teacher is contingent on changing student needs, expectations and circumstances, imperatives relating to the use of new technologies, and changing professional and industry views as to what counts as a quality higher education, and what counts as a quality university graduate. One might think that educational integrity in recent times has been under full scale, frontal assault. Many look forlornly for institutional direction and support which may not be entirely forthcoming. A strong sense of integrity based on teaching in traditional ways to traditional students in traditional classroom settings can be severely disrupted in a world of changing stakeholder expectations. Moreover, the student population is becoming more culturally diverse presenting another key challenge to ways of teaching effectively. Where is integrity left when teaching staff are confronted with the need to work in quite different and unfamiliar learning environments more strongly based in the virtual than the well-known and comfortable physical spaces of teaching? In addressing these questions we need to examine further the changing landscape of higher education and its impacts on the organisation. We do this by way of reference to our own organisational context at Deakin University.

Institutional context

The role and expectations of tertiary institutions has changed dramatically in recent years in Australia (and around the world as well). The notion of academics working in halls of learning and independently conducting teaching and research as they saw fit was probably never really true, but it is certainly demolished now. It is reasonable to suggest that universities are no longer teaching and research institutions, but rather knowledge providers competing in a
global marketplace. This is a fundamental shift in the way universities operate. The availability of online resources throughout the world provides potential students with a huge variety to choose from regarding education. Students have become customers/clients who are paying for a service and increasingly are and will be critical of what they receive.

Within this global context, Deakin University is a major provider of distance and online education. It teaches on five campuses located in three cities in the State of Victoria. Initially, Deakin saw itself as a major distance education provider, with some degree of separation between its teaching methods and materials used for on-campus teaching as opposed to off-campus teaching. The use of distance education methodologies and materials for both student cohorts gathered momentum in the early to mid-1990s under the strategic umbrella of flexible teaching and learning. The so-called ‘technological imperative’ within the University during this period was observed in (Holt & Thompson 1995). One of the cases highlighted in their article was the reborn School of Engineering and Technology, and this is considered further below. In more recent times the University has attempted to implement institution-wide online teaching and learning systems to provide opportunities to bring together all students in the one learning community. Such inclusively designed online learning environments are seen to provide all students, irrespective of their official mode of enrolment and location, with equal access to learning resources and channels of communication with their teachers, fellow students, and academic and administrative support services. This might be seen idealistically; however, pragmatically all universities are now confronted even with their so-called ‘full-time’ campus-based students with the need to provide more flexible, time and/or place independent study pathways in the face of growing trends towards increasing paid-time employment and student mobility. It would seem that even traditional, school-leaver campus-based student cohorts are taking on the characteristics of their mature-aged, in-employment, off-campus counterparts. This is happening to such an extent that we might argue that many students now seem to be having the distance-type learning experience to one degree or another. The commitment to greater and better quality online teaching and learning experiences is outlined in the University’s online technology policy. It set out three levels of online-ness and the University’s strategic and operational plans have set targets for the universal move to all units having a Basic presence, and then the progressive move to more units being offered in Extended and Wholly online forms.

However, the commitment to moving more substantially online has not occurred in isolation. Along with online teaching and learning, most universities, including Deakin University, have moved to promulgate policies relating to attributes of excellent teaching and excellent courses, graduate attributes, experiential learning, notably, greater emphasis on community and workplace experience in the undergraduate curriculum, and expectations to internationalise and make the curriculum more culturally inclusive. The issue of internationalisation has become more pressing with, for example, the growing number of international students undertaking the engineering program both on-campus and offshore in their own home countries. In addition, student charters documenting the rights and responsibilities of students relating to their university education have been in vogue – these could be seen as professional codes of conduct in student learning. These are significant challenges to academics’ self-understandings of what it means to act with integrity in contemporary higher education. Whatever the merits or otherwise of these policy developments they impact on academic staff to the extent they shape performance appraisal, promotion and quality assurance processes. For example, Deakin’s policy on attributes of excellent teaching has been used to guide the development of its Graduate Certificate in Higher Education which must be undertaken by all new continuing academic staff unless they meet quite stringent exemption requirements. The attributes identify that excellent teachers underpin their practice by scholarship, incorporate sound principles of teaching, support students and their learning, and adopt inclusive and learner-centred approaches. The ‘other’ organisational view cannot be ignored in one’s own assessment of what it means to act with integrity in the changing world of higher education. We examine further below how some of these policy developments can be used to create a new, more helpful conception of teaching with integrity online.

School of Engineering context

The School of Engineering and Technology has had an eventful history. Inherited from an antecedent Institute of Technology, it was closed in the 1980s and then reborn in the 1990s. Its rebirth saw a School committed to a different type of curriculum and to flexible delivery for both its on- and off-campus and offshore students (see Holt & Thompson 1995, p.50). In more recent times, the School has developed an enviable research profile with strong links to industry. Against the grain of University commitments to online learning, external professional accreditation
requirements have meant that the School has had to introduce face-to-face professional practice residential components for its off-campus student cohort. From 2005, these residential schools saw the coming together of both on- and off-campus students to develop various professional practice capabilities aligned with the University’s own commitment to the development of graduate attributes.

The two primary authors of the paper are former staff members of the School. One author (Stuart) taught the units, *Fundamentals of Technology Management* (first year) and *Strategic Issues Engineering* (fourth year), respectively in the management stream of the engineering program until the end of 2006. He conducted these units in extended online form for all his students located on- and off-campus. Stuart was a University Online Teaching and Learning Fellow in 2004 and oversaw the implementation of Deakin Studies Online (DSO), the University’s then new learning management system, in the School. His experiences can be found in his Online Fellowship case, ‘Engineering Migration’ (Palmer, 2004). The case shows that Stuart has an extensive record in investigating and publishing in the field of educational technology related to engineering education based on a long history of active participation in the use of various online teaching and learning systems at Deakin. Moreover, Stuart has been actively involved in examining the development of graduate attributes in the engineering program and the possibilities of implementing student learning journals and learning portfolios online to assist engineering students document the development of such attributes as they progress through their studies.

The other former engineering teacher, Richard, was unit team chair of the middle unit in the management stream, *Managing Industrial Organisations* (second year) until the end of 2005. This unit was offered wholly online for the first time in 2005 (with Stuart contributing to the development and teaching of the unit, and taking over as Chair in 2006). *Managing Industrial Organisations* is a good example of the variety of students within the School. The subject is studied by all students, unless granted exemption due to prior studies or if the student is able to prove they already have the required unit outcome competencies due to work experiences. In 2004, the last time face-to-face teaching occurred, there were 176 students enrolled in this unit. There were 74 on-campus students (a mix of full-time and part-time students), 46 off-campus students (some full time but mostly part-time students), 50 full-time students studying at a tertiary institution in Malaysia that is a partner of the School, and 5 part-time students in Singapore who receive some local support. Of the 46 off-campus students, most were working full time, usually in an engineering related occupation, and might live interstate or overseas. The age range for students in this unit was 19 years to approximately 50 years (the part-time off-campus option is very appealing to mature age students). The average age was in the mid 20s. This eclectic mix is typical of most units in the School. Moreover, Richard was the coordinator of the postgraduate coursework program, Graduate Certificate of Innovation and in 2005 did all of his teaching online interstate at a physical location remote from Deakin’s Waurn Ponds campus where the School of Engineering and Technology is located. Richard was, indeed, amongst the advanced guard of academic teleworkers, only periodically visiting the campus. He was progressively moving his graduate course to a hybrid CD-ROM and online model of delivery and support until departing the University at the end of 2005. Both Stuart and Richard therefore had substantial experience in the development and teaching of undergraduate and postgraduate courses online. The final author (Dale Holt) works in a central academic support unit and worked with Richard and Stuart on the development of the School’s wholly online unit and is supporting them in researching students’ experiences of this environment.

**Educational technology affordances**

Exploring teaching with integrity online requires at least some general picture of what technologies can contribute to enhancing the educational enterprise. An examination into where the new and enduring teaching and learning value could be found in the major new investments which have been made in institution-wide online teaching and learning systems in the last half decade was conducted (see Holt & Segrave 2003). From the smaller, localised and diverse developments in educational technologies in the 1990s has emerged in the new millennium corporate systems backed with large investments and ambitious agendas. These systems have included the large-scale adoption of learning management systems, gateways, portals, digital object management systems, synchronous communication tools and streaming technologies. Paradoxically, the bigger the investment in the new corporate technology systems, the greater the risk of disjunction between technology availability and educational benefit. Contemporary technology-supported teaching and learning environments, they argue, can offer a richer, more diverse set of learning resources appealing to different learning needs, a broader range of contributions from parties within and
outside the organisation who can contribute to the ‘educational experience’ of the students, a greater sense of connection or relationship making between such parties, notably, the students themselves, and opportunities for new forms of online-based experiential learning in support of students’ professional judgment making. All of this, as ideal, can be created, supported and revised based on the experiences of educators and students in flexible, timely and sustainable ways. A new wave of e-learning technologies which have emerged in parallel with the corporate systems are offering great potential in this regard. These social media/networking technologies, in the hands of teachers and students, which are easy to use, multimedia in nature, creating ephemeral learning resources fit for a particular purpose, are providing new opportunities for teachers and learners to express themselves and their understandings authentically.

**Losses felt by teaching staff**

Even with purported technology affordances, often losses are experienced by academic teaching staff when involved in distance and online education. A paper titled, ‘Is there anyone there? The embodiment of knowledge in virtual environments’ (Walker 2003a) addresses the question of the implications of online/distance education for teaching and the stereotypical view that such forms of teaching are pale imitations of ‘real’ face-to-face teaching. Various concerns can be expressed. Staff members often see the move to distance and online education as being predominantly text-based in relation to printed study guides and readers, and text-based online discussions, emails and announcements. The lack of media richness appears to compromise teaching staff members’ ability to project or express their teaching personas in such environments. The greater use of multiple media on CD and online has helped address this concern. However, much of these media have been of the pre-packaged variety, of great value, but not necessarily allowing staff to be responsive to student learning needs as they go about the teaching of their units. The capturing of such material can also prove intimidating for staff when required to do their ‘teaching’ in a formal studio environment. Often, staff members feel inadequate in regard to their perception of needing to be professional media performers. The authors, however, have engaged with such formally recorded commentaries on module aims and the talk-through of animated diagrams in their wholly online unit.

These concerns again, however, are being addressed through the emergence of devices like easy to use, portable digital recorders which provide opportunities to record commentaries or conversational pieces on student learning needs progressively through the semester and in more familiar, less formal locations like in one’s own office or at home. Working with digital media in these ways is an emerging academic online teaching skill of considerable value, but it will only be developed like any other skill with opportunity for experimentation, and it is not a skill that necessarily comes easily without considerable practice. Another twist to this sense of loss is, for all the emergent digital media to express teaching identities, the giving up of the secure and familiar spaces of face-to-face teaching. For those who have a sense of the mastery of the management of the cognitive and emotional dynamics of such situated interactions, the online environment can seem more open and uncontrollable. This can be perceived as highly problematic when staff members are working with and through controversial, emotionally laden topics and sensitive material. The sense of controversial ideas and sensitive materials being unleashed with unpredictable effects online can be anxiety provoking and compromising of one’s sense of integrity.

However, even highly skilled media performers and developers, of the likes of Walker, who undertook much multimedia case study and responsive media development work during his time at Deakin, can still leave unresolved the question, as he poses, from online and distance students as to whether anybody is really there as their real-life teacher located somewhere on a campus or off-campus at home or in the workplace. What remains important is the building of relationships between teachers and students, i.e. the getting to know each other and learning from each other. New media can provide novel opportunities to present the teacherly self (and students in turn to present themselves and their learning to each other and their teachers), if thoughtfully planned. Moreover, online environments, and the growing use of mobile devices connected to them, do still hold the possibilities to help people relate to one another and learn from this, if thoughtfully designed and moderated. Loss of integrity in teaching in online and distance education seems most acute for those who have invested themselves most in teaching as live performance in the classroom to their ‘classroom audience’, rather than seeing teaching as planning, designing and facilitating learners’ performances with the students on virtual centre-stage (or, as some would wish to say, the teachers as guides on the virtual-side-stage). It is a sobering thought that perhaps increasingly students, in their changing circumstances, do not wish to get to know or have a lot do with their teachers at all irrespective of the nature of the environment, face-to-face in the classroom or online. This might be the most distressing fact of all and
one requiring the greatest attention in thinking about changing conceptions of integrity in teaching online and offline.

Another loss experienced by teaching staff working online, is the actual loss of time despite claims to the contrary that teaching online should stimulate academic productivity. To prepare and deliver online may take the academic out of the physical classroom but requires significant resources to be prepared (often with substantial support from service departments within the university). Though these resources might be re-used in subsequent delivery of the unit, each group of students provides unique situations and issues that must be addressed. Therefore, integrity of delivery will require the academic to spend a great deal of time interacting electronically with each cohort of students. Indeed, depending on the extent of the material to be prepared and delivered online, a university might end up using more resources overall to deliver online than to deliver face to face.

**Conceptions of teaching with integrity in engineering**

So what might integrity look like in the new wholly online or blended learning environments? We see that acting with educational integrity, in all its facets, in online and in face-to-face classroom environments, as being a process requiring ongoing careful reflection on one’s teaching philosophy and practices in changing circumstances. It requires broader consideration of the relationships between the academic’s role as researcher, teacher and administrator. The emphases between these roles may change as careers progress, just as emphases between classroom and online teaching might change with the progression of time. At any particular point, it is the capacity to align career expectations and opportunities in the context of prevailing circumstances, in a coherent, committed and competent fashion, which defines the act of living and working with integrity in its broadest sense. While teaching beliefs and values may not remain immutable in periods of change, they are still the cornerstone of negotiating successfully new demands to teach in online-supported learning environments. It is the clarity of their articulation and enactment which is the hallmark of working constructively with e-learning technologies. It has been observed that, ‘…teaching is essentially an intellectual activity to be approached at the level of strategy, rather than a series of performances that can be learnt…to see…teaching as an intellectual project which is deeply personal and touching of the emotions’ (Walker 2003b, p.1 & p.2).

Teaching philosophy, we believe, begins fundamentally with beliefs and values relating to curriculum concerns. The key issue being what should be taught in a professional program like engineering, why should it be taught and what are the best ways of communicating desired learning outcomes to the student group? This is the first point of engagement with new technologies which are impacting on the thinking and practice of most professions, including engineering. With the advent of the Internet, information technology competence is rapidly demanding new forms of digital and networking literacy central to professional practice in the areas of virtual product design (Martin 1996), a key issue in engineering competitiveness, and for collaboration facilitated by the Internet (Allan 2005). Moreover, being able to learn online effectively will be an important part of continuing professional development in engineering (Ubell, 2000, p.60). Technology in this respect is at heart a curriculum issue, not merely a mode of delivery consideration. It is becoming a new paradigm for the way engineers work. For example, companies now have two or three teams in different continents working on a single project. In this way they are able to make use of the time differences and work 24 hours per day on the project. This reduces completion time for the project but relies on online technologies. Students who become familiar with this approach through their studies should adapt to this approach easily.

Conceptions of educational integrity hang on the development of a thoughtful position in relation to the development and assessment of the key professional capacities required to adapt and excel in the changing world of engineering practice. Here, curriculum design competence comes to the fore. Research also enters the picture strongly at this point. Research both creates and informs our understanding of the changing world of professional practice. Research on teaching innovation, including online teaching innovations, can be integral to teaching integrity for those strongly involved in online education (a point we return to later in the paper). What also becomes important in determining these professional capacities is the commitment to engage with all parties (i.e. prospective, current and graduate students, fellow academic staff, employers, industry and professional associations) who see themselves as having a key stake in the outcomes of the educational experience. A key channel into this area of curriculum design in engineering education has been through the consideration of graduate attributes. A brief
examination of the meaning of graduate attributes in engineering education is a useful way of making coherent connections between curriculum, pedagogical, assessment and technology concerns.

In engineering, the idea of specifying required student outcomes in terms of graduate attributes has been embraced internationally for some years (Jolly, 2001; Lister & Nouwens, 2004). Australian undergraduate engineering programs have no shortage of direction in this regard, as Engineers Australia (the professional body) identifies the graduate attributes it expects to find in an accredited course, at least in the general sense. Once the list of appropriate graduate attributes has been agreed upon, there is a need to consider where in the program/curriculum the various attributes will be addressed. This is not as straightforward as it sounds. Certain attributes are challenging to design coherently into the engineering curriculum. A good example of this is the topic of sustainability. It is now recognised that sustainable engineering practices incorporating industrial ecology and life cycle management must be integrated with other engineering practices, such as design and production, rather than added on as an afterthought (Powers & Williamson, 2004). In the same way, there has been a growing awareness that sustainability, which was initially taught separately from other subjects, should be taught within the more traditional subjects (White, 2000). However, online teaching, which can incorporate links to appropriate sites and material developed for more “environmental” subjects, means sustainability can be more easily included within the more traditional subjects. This eases the burden on the academic of developing extra material.

Designing a program curriculum to expose students to a range of graduate attributes is a necessary step, but, in itself, it does not ensure that students have developed the desired attributes. One element of such an assurance is including assessment tasks that seek to measure the student’s attainment of the desired attribute(s). It is important to make the distinction between processes which ensure that a course contains opportunities for student to learn and practice desired attributes, and processes which seek to certify actual student attainment of graduate attributes. The Engineers Australia course accreditation requirements identifies, under ‘Assessment of outcomes’, “The assessment system must ensure that each individual graduate has met the program requirements in full”, suggesting the need to aim for the more rigorous process that seeks to certify individual student attainment of graduate attributes. The undergraduate engineering accrediting body in Australia (Engineers Australia, 2005) identify student portfolios as one possible effective strategy for demonstrating program outcomes and student attainment of graduate attributes. The benefits of portfolios are summarised as: they can contain many different types of evidence; they resolve many types of assessment problems in equity and moderation; they provide a richer picture of students’ learning and competency; students are actively involved in the building of the portfolio; they are well suited to authentic learning environments; they can be used in a wide range of contexts; and they provide a means for students to manage their own professional development (Love & Trudi, 2004).

While it is possible to employ a paper- or hardcopy-based student portfolio, the benefits of on-line portfolios include: ease of use; gives students secure control of their portfolio; a multimedia archive of the material can be produced; the portfolio contents can be searched; materials can be easily updated and replaced; students and staff can access the portfolio on-line, anytime; portfolio marks can be automatically logged and managed; students can be provided with feedback online; and the portfolio structure can be aligned with the required graduate attributes, so that student submissions are focussed on the outcomes to be measured.

We have focussed on the connections between graduate attributes, curriculum design, assessment and student portfolios compiled online to highlight a more fundamental point about a broader conception of teaching with integrity online. These conceptions must be grounded in beliefs and values as to what really counts in all facets of the education of students for effective professional practice. There can be no ‘real’ integrity in teaching ‘virtually’ if all that is considered are the features of this particular online system, tool and application or that, if devoid of any informed curricular or pedagogical underpinnings. At best marginal gains in academic teaching efficiency might be achieved, or certain pre-packaged resources made somewhat more accessible. Reconciling the technology affordances with perceived drawbacks is to see online teaching as offering a different type of opportunity, some new ways of adding value to, in many cases, long established approaches to learning and new perspectives on what a professional curriculum should represent in a world of practice impacted by the new technologies themselves.

Implications for supporting teaching staff
At one level, implications for supporting academic teaching staff using educational technologies are relatively straightforward. Staff members need to be trained in the use of particular features of the technologies, and they certainly benefit from local and central support from people who may have developed higher order technical skills and educational insights into the effective use of the technologies. Staff members who are involved in major unit and course developments involving educational technologies clearly require some type of time-related support in order to do justice to these projects. However, the support we outline is of a different order and encompasses: supporting the creation and sharing of stories or exemplars of good practice in the use of digital media and online technologies broadly across an institution; supporting the development of local communities of progressive online teaching practitioners; providing staff with opportunities to adopt or develop roles commensurate with changing circumstances and therefore to be modellers of new academic work practices; supporting ongoing teaching, including online, innovations and conceiving of such projects as being both about teaching innovation and bona fide research relating to their impacts on the teachers themselves and their students; and supporting the integration of various teaching and learning directions and strands of practical enquiry.

Deakin University, like a number of other universities, has recently established a strategic teaching and learning grant scheme (STALGS) to support developments seen to be of strategic significance to the University. Over 2004-2007 a number of these projects have related to educational technologies, including: e-simulations for professional education; exemplary cases referred to previously; the implementation of streaming, podcasting, blogging, anti-plagiarism and synchronous communication technologies; digital business communication case study; online dietetics practicum; teaching online for cultural inclusivity and multimedia cases in education to help internationalise the curriculum; and a pilot online portfolio in engineering using the University’s LMS. The latter 2006 project, ‘Developing a framework for discipline-contextualised graduate attributes in the professional field of engineering: enhancing student achievement of Deakin's graduate attributes’ has seen the actual implementation of a student learning portfolio approach in the final year unit taught by Stuart. A number of these STALGS developments have been translated into officially approved research projects. In addition, other online research projects are being pursued including one involving the three authors, and other co-investigators, focussing on the experiences of teaching and learning in wholly online environments at the undergraduate level at the University. Institutional support is critical to all these developments. Each one involves the (re)consideration of the role and nature of the contribution to made by academic teaching staff in designing and working with digital media and online technologies as significant components of contemporary learning environments. Each one, therefore, contributes to the development of a broader conception of integrity in relation to teaching online.

Articulating, codifying and sharing coherent conceptions of effective teaching and learning online helps to bring a large, dispersed university community closer together. Staff members confronted with multiple, pressing daily demands on their time are increasingly finding it difficult to attend formal, off-the-job academic professional development sessions. In this case, making such coherent stories of good practice easily accessible online to the staff member in their own locale becomes imperative. Moreover, staff members need to see at first hand their own colleagues effectively expressing their own teaching identities with integrity online as worthy role models. The story-telling and role-modelling needs to reveal the type of coherent, committed and competent view of teaching and learning examined. It needs to be embodied in the systematic academic professional development program offered to staff: continuing and casual/sessional. One could say that powerful conceptions of teaching with integrity in contemporary teaching and learning environments need to be strongly exposed to staff new to tertiary education, or new to a university strongly committed to distance and online education. In distributed organisational contexts what does become important is the formation of local communities of critical mass made up of those committed to exploring new ways of being an educator of integrity in contemporary higher education.

Implications for supporting student learning online

How can student learning be supported with integrity once online environments are developed and students are undertaking their studies? As previously indicated, one of us (Richard) was based off-campus, 1600 km away when he was teaching online in the School. All of his teaching, in fact, was delivered online. Two major aspects of teaching – delivering the learning material and assessment – can both occur online regardless of where the academic is based (assuming a suitable online technology is available). The system used by Deakin may be accessed and utilised anywhere on the planet that Internet access is available. This means that online students will never know where the academic is based, and they don’t need to. Provided the academic logs in regularly, a subject can be
delivered and assessed successfully. A rapid response to student enquiries is vital. Even if the academic indicates he/she will provide a detailed response at a later date, the student will know that an initial response has been received and that a lengthier one is coming. Considering that students in a classroom get immediate replies from the lecturer, it is desirable to match this as much as possible. In fact, it is probably worth explaining early on in the semester how the online delivery and interactions will be conducted. This makes it clear to the students what they can expect, and also makes it clear to the academic what standard he/she must meet. Consistency between different online subjects is highly worthwhile as students will not have to second guess what is happening all the time. Stuart and Richard ensured that all their units had virtually the same appearance and similar content structure online by following Deakin’s suggested format. Some students will want to have a sense of knowing who the lecturer is. Therefore, it is important to inject some personality, even humour, into the online communications. Otherwise there is a risk that the delivery will be perceived as sterile and without real interest being shown by the teacher. One way of doing this is to use examples from the teacher’s career when making a point. Use of the personal – I, me, my – so often discouraged in engineering communications, is essential. This way, students see the person. Photographs of the academic, better still a video, along with a brief resume also personalises the delivery. In the wholly online unit, there has been experimentation of podcasting-style audio commentaries recorded as students undertake the unit using technologies under the immediate control of the teacher concerned. The ready use of these audio capture and delivery tools allows the teacher to give fuller expression to their expertise as and when the students might need it in a form, the spoken voice, more engaging than text alone (see Lee 2005).

Assessment may be entirely online as well, including teacher assessment of students’ online contributions to discussion spaces around key topics of interest, and the compilation and sharing of student online portfolios of accomplishments relating to key professional attributes. Through ongoing and often spontaneous contributions amongst teachers and students online units can develop a sense of liveliness and dynamism which can be absent if the learning experience is based solely on independent learning from pre-packaged digital resources and mastery testing. In fact, in 2006, investigations showed that participation in the discussion was a valuable method of mastering the wholly online engineering unit material, as measured by the exam. Assignments may be submitted in a variety of formats and once opened can be graded and returned to the students immediately. It is also possible to set up online tests such as multiple-choice that will require no intervention by the teacher as part of the mix. Richard marked assignments in the United Sates that were submitted by students in Asia. Whilst this flexibility is a useful feature, it also means that there are very few excuses for assignments being returned late to the students. With hard copy submissions a normal assignment turnaround time is two weeks. This has been applied to electronic submissions and has been seen to be quite workable, even when travelling with only limited access to the Internet. Exams are a different matter, due to security and administrative issues such as regional time differences, although not insurmountably so. Therefore, examinations could also be held electronically online. The freedom afforded to the teacher by being released from having to be on-campus to complete assessment tasks is significant. It is no longer necessary to choose between teaching duties and attending conferences, or conducting external-based research, or outside consulting, or even going on holidays. Each of these strategies makes their own modest contribution to teaching online with integrity. Together however, they can provide rich opportunities for teachers to express more fully their educational commitments in a coherent, competent and committed way.

The university as learning organisation

In concluding we believe that the tradition of collegiality in academia is still pivotal to creating an organisational learning culture most conducive to the development of broader and more constructive conceptions of integrity as applied to online-supported teaching and learning environments in higher education. This though is possibly a more encompassing collegiality involving a broader range of participants beyond the immediate members of one’s disciplinary group and external affiliates. One’s integrity is increasingly shaped and defined in relation to how one is perceived at school, faculty and institutional levels and by external parties. As argued, more parties can make different value-adding contributions to students’ education more easily and in a more integrated fashion through the use of the new media/new technologies. Academic teaching staff members are still quite rightly at the heart of these new forms of collegiality. They still need to exercise their professional judgement making capacities, that is, they still need to have confidence in their own agency to shape the most appropriate uses of the educational technologies in the context of their own teaching beliefs and values. It is not that academics in this day and age can opt out of the demands to use the technologies. The technologies will be used, although how well and with what effect remains problematic in a compliance-based culture of teaching. Searching for constructive conceptions of what it means to
teach with integrity online requires the types of cultural supports which characterise contemporary high performing organisations, that is, those organisations capable of creating, sharing and using knowledge of good practices to enhance their learning and development. These supportive professional development environments in turn must be based online in order to achieve the required scope and reach of new forms of collegiality and its manifestation in distributed communities of practice. A case of such an online professional development approach in action is presented in (Spratt, Palmer & Coldwell 2000). This places the ‘learning organisation’ squarely on the agenda in managing organisational change in relation to online teaching and learning in higher education. This is likely to become increasingly important as a future devoid of real collegiality may see educational decisions being made for non-educational reasons by people not directly involved in education. This would undermine more positive developments occurring around constructive conceptions of integrity in teaching online.

**Conclusion**

The advent of e-learning has challenged conceptions and practices as related to educational integrity. The development of new forms of online-supported teaching and learning environments challenge academic teachers to think afresh about the meaning of teaching with integrity. In the face of changing students learning needs, and proliferating technologies, teachers must forge new identities. To think about this new professionalism in terms of educating competently, coherently and in a committed fashion, we argue, represents one way forward in successfully negotiating the challenge.

**References**


DSO Contemporary cases in online teaching: [http://www.deakin.edu.au/teachlearn/cases/index.htm](http://www.deakin.edu.au/teachlearn/cases/index.htm)


