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Learning =Working: Professional Engagement in Academic Curricula

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Abstract

This paper will explore the importance of establishing links between the teaching and learning that takes place within the structure of a University and the realities of professional practice. It will also critically appraise the current opportunities for professional engagement offered to students and surveys possible alternatives. The paper describes and explores the development of a collaborative relationship between the staff and students of the Bachelor of Multimedia at Monash University and a commercial enterprise, mondostudios.com, as an exemplar of the reciprocal benefits offered by such a unique relationship.

Keywords

IS curriculum, IS education, future informational professional

BACKGROUND

In our teaching we are divided by two conflicting imperatives – the inherent tension between the traditional hegemonic claims of the academic curricula developed over years of research and teaching experience and the competitive, essentially vocational, objectives of the work place that our students require in order to function effectively in that work place.

The first of these is bound up in the rigorously guarded sphere of academic scholarship and discursive practice and the second, to the economic realities of the labour market with its emphasis on experience, training and skill levels.

The integrity of the academic aims is undeniable. The abstraction, for which academic knowledge is most frequently decried, is the very source of its intellectual energy and capacity for critique. Learning via conceptual explication enables us to transcend the "real", the mundane, and explore the "possible". Students acquire the methodology necessary for reasoning and research, learn to reflect on accepted, and traditionally authoritative, practice and gain admittance to a realm of knowledge and understanding that transcends the narrow parameters of the immediate subject content being studied.

Students however, often find the rigors of academic endeavour far removed from the realities of the work place and further, that the traditional degree structure does little to contribute to the development of the necessary skills required to function effectively and realistically at the levels expected of graduates. As educators we are obliged to grapple with a variety of competing expectations; the increasing demand for short courses rather than degree structures demanding three to four years of commitment (and an incremental rise in cost!) and the intensifying demand for competency-based standards in educating the workforce. What is missing in the tertiary curricula is an explicit orientation to life outside the hallowed halls of the university, not just to paid employment but to all activities that contribute to our livelihood. Scholarly knowledge actively seeks to work against such life-readiness. Many academics perceive preparation for work as a constraining and inadequate goal for education. There are thus a number of competing interests dividing our allegiances. As educators, we are compelled to prepare students for professional practice according to the latest industry requirements without compromising educational and research objectives. The entrenched supremacy of the theoretical and scholarly curricula thus poses serious difficulties for our graduates in their working lives. As Ron Weber (1999) suggests, we can no longer be assured of our monopoly on knowledge, either fundamental wisdom or the application of that knowledge. Tertiary education tends to breed it own conservatism even in the newly emerging field of multimedia. A conservative social system such as education is specifically purpose-built to appropriate and neutralise potentially revolutionary knowledge/artefacts by imposing standards of "knowing".

As an example, IT departments within universities all over the world routinely instruct students on the use of specific software, the system development life cycle etc. without the opportunity for *contextualising* such knowledge.

Teaching multimedia students skills within a lecture or laboratory environment dissociates learning from the use they will make of it in the workplace. Students are left bereft of the resources, both physical and conceptual, for making sense of what they are learning. Paradigmatic of dissociated learning at its most insidious, such methods of teaching applied content compels students to follow the very worst model for learning: *rote* learning, where knowledge is considered meaningless except in relation to a measurement of aptitude at the completion of the subject.

Industrial experience (I.E.) projects in the final year of an I.S. degree have hitherto been the sole successful source of "work" related experience accommodated within the curricula. Such experience places uninitiated students into the frightening, and generally harsh, reality of a world for which the University curricula fails to prepare them.

Assessment of IE students may be reliant on the judgement of non-educationalists for whom success is measured in very different terms than pedagogic objectives directed towards enhancing the learning process and still fails to equip students with the meta-cognitive skills necessary to survive in a rapidly changing workplace.

Some Universities such as Monash, Australia, have attempted to address the inequitable balance between the vocational and theoretical with the introduction of Double Award programs, a joint venture between the university and the nearby TAFE. These have met with varying degrees of success, being contingent upon the specific mix of degree and award, the relative enthusiasm and commitment of the individual students and continuity and lack of repetition in the subjects offered from both institutions involved in the teaching of the students. Student responses to such an educational model tend to highlight the need for an integrated approach to the vocational and the theoretical within the one learning institution.

THE PROBLEM

Many students enrolled in the Bachelor of Multimedia are producing commercial work outside of standard assessment tasks using the facilities of the university and in less than secure financial and risk management conditions.

Despite their lack of business acumen their skill level, even at first year, invariably exceeds what is loosely considered "industry standard", yet they are consistently treated with bemused indifference by clients when the time comes for payment for the services they have rendered. Whilst the students' skill level is such that they attract the business, they are easily exploited by unscrupulous business practice due to their naivety and lack of insight into the business world. Students are at risk in a number of key areas:

- **no** professional/commercial mentoring;
- **no** professional indemnity;
- **risk** of improper use of teaching facilities and resources;
- **risk** of use of academic copies of software for commercial purposes and
- **students** at risk of loss of intellectual property and exploitation

Faced with these difficulties and a curriculum that can offer only simulations of work practice, students are both frustrated and anxious, feeling disassociated from, and unprepared for, the industry they will soon enter. Within the traditional educational curricula a student is unable to discern any established professional role with which s/he can associate. This is further complicated by the newness of the multimedia profession where "professional" practitioners are still fumbling to establish standard levels of competencies in an area where the foundations of knowledge are constantly shifting and challenged by technological advancement. The rapid rate of change endemic to the industry renders professional techniques taught today, obsolete tomorrow.

Currently, the diametrically opposed worlds of the discipline-oriented academic and the profession-oriented industry necessitates that a university rigorously avoid the industry-based vocational training that TAFEs provide. As Simon suggested almost 30 years ago, although referring specifically to the American model of a Business School, workplace simulations,

> …*can* be an exceedingly productive and challenging environment for fundamental researchers who understand and can exploit the advantages of having access to the "real world" as a generator of basic research problems and a source of data (Simon 1969:341)

And thirty years later we have still failed to establish such learning centres which marry research/theory and "real world" business practice. Universities must become such a collaborative partner in establishing a work environment *within* the paradigmatic framework for education for otherwise, as Simon suggests,

> …*the* faculty becomes dependent on the world of business as its sole source of knowledge inputs. Instead of an innovator, it becomes a slightly out of date purveyor of almost current business practice. (Simon 1969:350)

In the field of information technology, and in particular the burgeoning area of multimedia, there are few academic schemata, few theories posited on the development of work practices, however there are many, and diverse, theories-in-use. A gifted multimedia developer is often unable to articulate the processes of design and technical judgement utilised in the creation of a multimedia product or service, yet often can *model* the behaviour/action *in use* consistently and repeatedly. The mystique of the *artist* is central to this professional's practice as her/his technical or design theory is not rendered explicit. Such a mystique leads to the polarization of practice and theory, workplace and university. Such polarization inevitably manifests as opposition between the theory-driven academic world and vocational industry-based learning.

Thus we are not producing competent practitioners because we do not prepare students of our disciplines to be competent practitioners. As educators we fail to help them acquire the skills essential to competent practice in the real world. The student has hitherto been expected to somehow mysteriously acquire competence through her/his own efforts or by osmosis via association with extraordinary practitioners. The assumption being that intuitive knowledge combined with this elusive mystique is central to professional skills. This "model" should not surprise any of us who have worked as tertiary teachers as this is the very mode by which we have acquired our own skills!

CURRENT PROFESSIONAL ENGAGEMENT PRACTICE

Traditional conduits for vocational experience have failed to meet the increasing insistence by students that learning reflect the demands of the workplace (Blashki 2000:958). Field experience that comprises actual practice has become a popular, if not contentious, issue in educational circles as it necessitates both already stretched staff and student resources and industry generosity. Many faculties all over the world have endeavored to institute such a model for learning in a valiant attempt to satisfy student frustration and industry demands for work-ready graduates.

The Australian, and particularly Victorian, governments (the state within which the Bachelor of Multimedia is offered by Monash University) estimate that with the high demand for IT-capable human resources in the industry, demand over the next 3 years will exceed supply by 100%. E-commerce/e-business is expected to increase Australia's gross domestic product by 2.7% by the year 2007 (equivalent to the economic growth of one year) and major growth in the web and e-commerce is expected particularly in small to medium enterprises where 48% are web-connected but less than 25% have web sites.

With these pressures encroaching upon the educative objectives of the universities and the career choices of young people, educators can avoid the vocational imperatives only at the risk of losing vast numbers of students from the tertiary sector. We can no longer offer *simulations* of work practice and assume it will assuage student dissatisfaction. Collaboration and co-operation with industry enrich the learning experience for both staff and students and result in the reciprocal benefit of knowledge transfer between industry and the academy.

DEVELOPING AND IMPROVING PROFESSIONAL PRACTICE READINESS

This section will explore some of the structural and procedural innovations installed within the framework of a business enterprise and the reciprocal consequences upon the education of the students enrolled at University.

Rather than ignoring the problems as outlined above, the Faculty of Information Technology at Monash University took the innovative step of engaging the services of a business consultant to explore the possibilities of setting up a commercial venture to address some of these problems. The result was mondostudios.com. In July 2000, the Faculty of Information Technology, Monash University, established a commercial enterprise structurally detached from the institution in response to a need for a commercially viable center located at, or near, the Berwick campus to channel multimedia contracting work to students at commercial rates.

Such a commercial development establishes synergies with the growth in both the campus and the city within which the campus is located. The local city council has development plans and proposals for a technology precinct in the immediate vicinity of the campus and within which the commercial enterprise is located.

Structurally unattached to the university, Mondostudios formed a collaborative partnership with the Bachelor of Multimedia whereby the degree students who have both the talent and the enthusiasm are contracted to work for the company. In addition, students may also submit work completed in the course of employment for assessment purposes subject to certain conditions. The mutually co-operative relationship is dependent upon the studio subject within the degree structure (see Blashki 2000) for detailed description).

By instituting that which Schön would describe as an "epistemology of practice" (Schön 1987:303) both the commercial enterprise and the degree structure collaborate in a program premised on active participation in a student's individual learning process.

The integration of Mondostudios into the curriculum via the Studio component places a "reflective practicum" Schön (1987) in the degree structure as a link between the worlds of academia and professional practice (see Figure 1 below.)

Mondostudios is thus an extension of the studio subject conducted within the walls of the university. Despite the connection between the two, there is however some standard business expectations required of the students in the commercial enterprise that would be anathema to the ideals of the educative process:

1. The division of labour, not via a socio-economic criteria but rather the skill level of students, thus expertise is valorized over effort.
2. The standardisation of tasks and work but only for those tasks amenable to such treatment; highly standardized development approaches, toolsets and methodology.
3. The quantitative measurement of output in repeat tasks – a production shop focus on commodity work.
4. Susceptibility to objective measurement and control rather than the self-assessment encouraged within the degree, with standardised commercial arrangements and strong emphasis on quality control.

The structural model is premised on a de-centralised and non-hierarchical structure where key students, selected via a combination of skill, talent, energy, enthusiasm and most importantly, communication skills, are contracted as producers. The producers then select their production team according to the needs of the particular client/brief. Production teams comprise contracted production workers (students or staff) grouped in teams of up to six under the producer (team leader) who is responsible for estimating, work supervision and quality control. Producers are selected by combined consultation between the management of the company and the co-ordinator of the degree and may be either staff or students. The time commitment of students is confined to a reasonable limit (absolute maximum 20 hours a week) with Faculty scrutiny of workload. The commercial enterprise aims to; support both the financial and educative needs of students and the pedagogic objectives of the degree structure; previews emergent talent for an under-resourced industry and has, and will continue to contribute, to regional development. Thus the investment is not solely financially oriented but also educational, cultural and social.

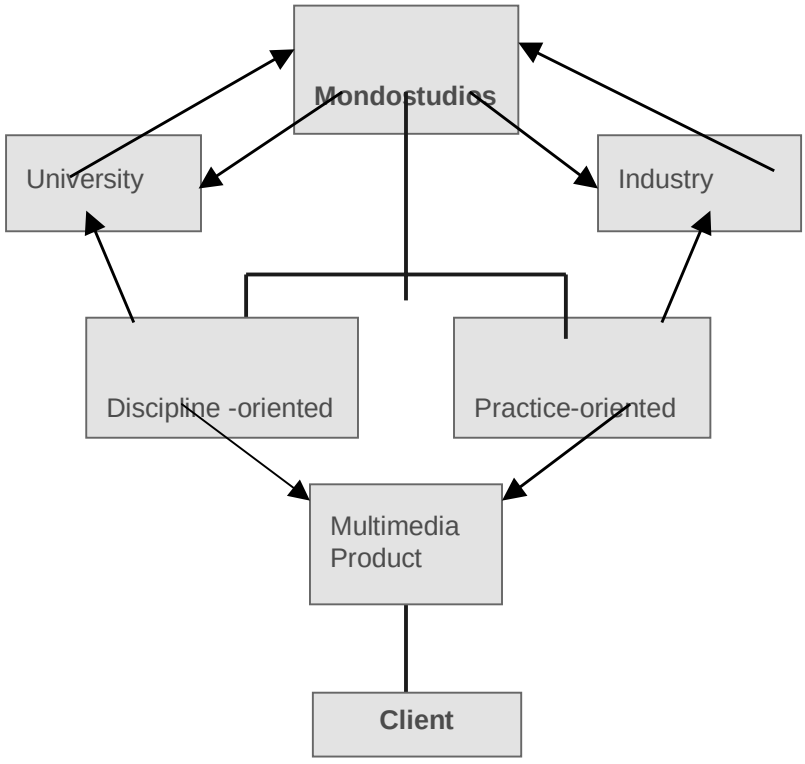

Figure 1. The Dual Orientation of Mondostudios

Inevitably with the institution of a program such as this we are confronted with the dilemma faced by educationalists when the normative curriculum is transgressed, how does one maintain relevance in a normative curriculum and rigor in the practical component?

In the traditional classroom, teaching is practiced as the transfer of information/ knowledge, and learning is perceived as the receiving, storing and digesting of that information in readiness for regurgitation at the appropriate assessment time. Knowledge is perceived by the academic as the privilege of expertise and territorial rights (Blashki 2000:959), the sacred domain of the University and not the Business world. The introduction of a practical component into the hallowed halls of the academy necessarily effects change and disrupts the established patterns of teaching and learning acquired over years of institutionalization (Blashki 2000:959). However, the introduction of authentic, not simulated, professional practice into the core of the curricula formalizes a student's learning-by-doing. Such a curriculum becomes that which Erving Goffman might have termed a total institution. Students do not so much *attend* university classes as *live* them!

OUTCOMES

Success can be calculated by the usual quantitative measures such as; the speed of flow and quantity of work received by students, the achievement of commercial rates, satisfied clients with repeat and referral business, growth targets achieved, etc,. However, from a pedagogic perspective the success factors are much more abstract in nature and therefore difficult to measure and substantiate.

In general, student response is affirmative and overwhelmingly enthusiastic as they perceive that such a collaboration between that which they learn in the degree structure and the work undertaken in Mondostudios, applies immediately to the reality of practice Thus, on an immediate gratification level, we allay their anxieties about the relevance of their education to their vocational aspirations.

Any profession needs both a code or standard of practice and the arts and skills that comprise professional practice. As an example; the developer employs both unique and standard skills and abilities when creating an interface design, however they also require a theory of action and behaviour, and an institutional framework, through which their skills and abilities, their practice, can become a reproducible, valid *technique*. Therefore our work as educationalists must include not only the skills and art of multimedia development but also the methods by which students/practitioners create the working world in which they produce their artifacts. In Mondostudios students create their working world in the same way for example as teachers create their classroom environment and the behaviours expected within that space.

A professional practice component demands an intensity and duration beyond the boundaries of the traditional two-semester model currently in practice. Students learn very rapidly when working for Mondostudios the imperatives of deadline and time management that traditional assessment methods fail to instill. Yet they also begin to grasp, and master, the *practice* of multimedia. Students recognize their own progress in both tangible form with the creation of a product, and in more abstract form whereby they acknowledge their own learning process. Thus they discover that the learning process is, in Dewey's terms, "the practical work… of modification, of changing, of reconstruction continued without end" (Dewey, 1974:7)

This is not to suggest that this program is premised on a model in which teachers have abdicated all responsibility and students can define their own goals without being confronted with their areas of vulnerability and their mistakes, nor affected by edifying interactions with staff. This is a learning environment with evaluations, rewards and penalties, albeit often self-imposed (see Blashki, 2000). Students are required to explore both the immediate and the long-term consequences of their professional conduct/behaviour on the client and their peers and the consequences for the relationship and any further dealings between her/himself and the client.

FUTURE TRENDS

As educators we need to concern ourselves with both the educative consequences and the extent to which students involved in this unique program acquire the characteristic skill set and attributes of a professional practitioner. Plagued by questions concerning the determination of this ephemeral "characteristic skill set" of a multimedia developer, we constantly strive towards achieving the prominence and reputation within the industry that testifies to our program defining the parameters of professionalism.

We need not be threatened by the apparent lack of consensus about the determinants of professional practice. Whatever we might mean by "competence", and in the world of Information Technology this is a slippery and shifting term, the foundation for future professional competence would appear, and should be premised upon, the capacity to *learn how to learn* (Schein, 1972, Schön, 1987, Blashki, 2000) This necessarily entails developing a continually evolving theory of practice under real world conditions.

There are some paradigmatic criteria however, that a student should acquire and acknowledge in the course of her/his learning;

1. any theory of practice should allow for the recognition of, and response to, its own inconsistencies, ineffectiveness and eventually (particularly in Multimedia) to its degree of obsolescence;
2. the theory should allow for an interactive relationship between client and practitioner in which both reciprocally benefit from the knowledge of the other,
3. the theory should encourage innovation and in particular, risk and
4. it should include reform and reformative measures.

Hitherto, success has only been "measured" anecdotally and in order to valorize and legitimize the program in terms of both educative and industry objectives, ideally we need to establish "bench-marks", "competency-based standards" (external and internal) which indicate the industry-quality of our students.

Focus groups comprising key industry representatives would be instituted in an effort to generate such competencies.

Entry and exit surveys are in the process of development and will aid in student-centric quality assurance. In order to assist students in the transition from university to the workplace, plans to establish a database of graduates and industry representatives in order to inaugurate a mentor program are also currently in progress.

CONCLUSION

In recognising the incongruities and inconsistencies between espoused and essentially academic theories and the deployment of theories-in-use during actual practice we have attempted to address only selected issues. Such a program does not, and cannot, always work according to the ideals championed in a research paper! To function effectively a program such as this requires abundant energy and commitment from both staff and students. Not all staff nor students are willing, nor capable of responding accordingly.

Whilst we must never lose sight of the pedagogic objectives upon which our curricula is founded and the significance of their educative function, we should also concern ourselves with what it means to prepare students adequately for professional life.

This collaborative program does not purport to be the definitive answer to our educational dilemma. It has however, proven to be a very successful attempt to address many of the issues that beleaguer our pedagogic practice. Our students emerge from their university experience as eager and committed practitioners, capable of professional performance and sought after by leaders in the industry.

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