Studies in Learning, Evaluation Innovation and Development
http://sleid.cqu.edu.au
1(2), pp. 19–31. November 2004

Challenging enterprises and subcultures: Interrogating 'best practice' in Central Queensland University's course management systems

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Abstract

The notion of 'best practice' when applied to university teaching and learning confronts a difficult challenge: to raise the minimum educational standard in society without diluting the diversity constituting any university. This challenge is particularly evident at Central Queensland University (CQU), whose diversity of student demographics and characteristics, teaching modes and organisational structures exerts pressure on its perceived institutional unity and identity.

This challenge of best practice is exacerbated when applied to the examination of course management systems (CMSs), which are commercial software packages that provide Web-based tools, services and resources to support the teaching and learning process for both online and blended delivery. The implementation of these systems at CQU has highlighted fault lines in the worldviews and priorities of different groups and individuals in the institution. It is the intersection of these enterprise systems—or "packages of computer applications that support many, even most, aspects of a company's information needs" (McConachie, 2001, p. 194)—and subcultures and the impact of that intersection on understanding best practice in CQU's teaching and learning activities with which this paper is concerned.

This intersection between enterprise systems and subcultures is illustrated by an analysis of the results of an online survey questionnaire completed between August and October 2003 by 91 respondents, representing academic and general staff members, managers and students from eight campuses and seven faculties/divisions.

This article has been peer-reviewed and accepted for publication in *Studies in LEID*, an international journal of scholarship and research that supports emerging scholars and the development of evidence-based practice in education. ISSN 1832–2050
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The authors argue that the survey results contain significant lessons for conceptualising best practice in CQU's teaching and learning, including the urgent need for strategies to make visible the aforementioned fault lines between enterprise systems and subcultures.

Introduction

This paper argues that 'best practice' in teaching and learning is a constructed and contextualised phenomenon; that is, best practice is composed of, and framed by, the varied perceptions and aspirations of the multiple stakeholders who constitute an organisation such as a university. Individuals and groups within the same institution often have very different and even conflicting views of best practice in teaching and learning. These differing viewpoints influence the priorities of those who hold them for the development and use of support mechanisms for teaching and learning, such as the implementation of a new course management system (CMS). Furthermore, these competing priorities can lead in turn to considerable tension amongst the subcultures within the institution. This assertion is illustrated using examples found in the analysis of a survey that we conducted in 2003 looking at staff perceptions of CMSs at Central Queensland University (CQU) (for a different but related analysis, see also Danaher, Luck, Jones & McConachie, 2004).

Before beginning the analysis and discussion of the survey, we describe CQU's unique and very complex student demographics, teaching modes and multicampus organisational structure. This is followed by a definition of what we mean by the terms 'organisational culture' and 'subcultures'. We then link this information to the literature on CMSs. Together these sections outline and support our argument of the simultaneous need to make explicit subcultural differences and to sustain the benefits of a strategic approach to developing best practice.

Central Queensland University

CQU is a dynamic, young, multicampus regional university. It was founded in 1967 as a campus of the Queensland Institute of Technology. It became a university in its own right in 1991 (Cryle, 1992). In total, CQU consists of 13 campuses (see Figures 1 and 2). The original campus is in Rockhampton, which remains the organisational centre of CQU.

Figure 1: Australian campuses of CQU

Figure 2: Offshore campuses of CQU

As a result of the rapid expansion of CQU, the total student numbers tripled between 1990 and 2003 by rising from 6000 to 18600 (see Table 1).

Table 1: Trends in CQU's total student numbers 1990–2003 at 31 March 2003[1]

Year	Research	Post-graduate	Under-graduate	Enabling	Non Award	Total
1990	32	831	5016	77	0	5956
1991	53	1050	5752	40	0	6895
1992	72	1142	6342	25	0	7581
1993	116	1156	6310	40	0	7622
1994	141	1283	6674	78	179	8355
1995	147	1324	6672	68	146	8357
1996	163	1653	7915	284	65	10080
1997	187	1863	8832	459	79	11420
1998	201	1726	9739	328	37	12031
1999	185	1565	10259	289	22	12320
2000	175	1823	11384	336	32	13750
2001	193	2690	12631	348	23	15885
2002^	212	3656	14534	349	147	18898
2003^*	236	3500	14415	366	104	18621

^ Pre 2002 data reflect a unique count of those students who were undertaking at least one course (unit of study) in semester 1 or the corresponding term of the relevant year.
Post 2001 data reflect a unique count of those students who undertook at least one course (unit of study) in any of the terms up to and including Autumn term for the relevant year, i.e. Summer, Spring, Spring/Summer and Autumn. The change in methodology has resulted in slightly higher counts, as students that were omitted under the previous collection method have now been included.
* At the time of writing, the 2003 figures are not yet final.

With the increase in student numbers came an increasing diversity of the student profile (see Tables 2 and 3). Up until the early 1990s, CQU's student population was approximately 50% internal and 50% external. The majority of students were Australian. With the creation of the offshore campuses and the international campuses in Brisbane, Melbourne and Sydney during the 1990s, the international students now form 40% of CQU's student population and they originate from 121 countries[2]. The increased number of campuses and students has increased the complexity of the delivery and coordination of teaching. Furthermore CQU has a very small number of school-leavers (924) and a large percentage of Indigenous students (3.6%) compared to the national average (1%)[3].

Table 2: Diversity of CQU's student population

Category of student	Total in 2003
Aboriginal or Torres Strait Islander	76
#School-leavers	924
Mature age	20427
Domestic students	12436
International students	8915
Distance education (external)	7261
Multimodal (internal and external)	1187

A school-leaver is a commencing student who had completed the final year of secondary education in the reference year or the year prior to the reference year. Hence this figure refers to the number of first year students who finished their secondary education in 2002 or 2003.

Table 3: Total student load at each campus

Campus	Research	Post-graduate	Under-graduate	Enabling	Non Award	Total
Brisbane		280	524		2	806
Gold Coast		150	215		6	371
Melbourne		961	1441		10	2412
Sydney		1339	2283		10	3632
Bundaberg	1	14	855	64	1	935
Emerald			11	24		35
Gladstone	2	15	280	68		365
Mackay		2	957	62	1	1022
Rockhampton	176	65	2205	128	72	2646
Distance Education	88	1306	5566	256	48	7264
@Fiji		188	712		3	903
Hong Kong		46	257			303
#Malaysia		18				18
Singapore		122	361			483
^Sunshine Coast			2			2
*Pomona		5	149			154
Grand Total	267	4511	15818	602	153	~21351

@ CQU is moving to a new campus in 2004
#This campus is being phased out
^ Joint program with Sunshine Coast University
* Not a full campus but is classed as a hub of CQU
~This total is greater than the total in Table 1. This table was created using enrolment data from the end of 2003, whereas Table 1 was created using student enrolments at 31 March 2003.

The year is now 2004, and the staff at CQU have become ‘change weary’ (see also McConachie, 2001, pp. 197–198 and 200–201). They have had to adjust to different management and academic structures, cope with the introduction of new administrative systems (PeopleSoft), adopt new and complex teaching models, adapt to changes in technology infrastructure for online teaching and learning, work within a complicated academic calendar and internationalise their curriculum to take into account the many and diverse cultures of our student population. It is against the backdrop of this complexity and change weariness that CQU’s development and implementation of CMSs needs to be understood.

Organisational culture and subcultures

Many authors have assumed that culture is a unifying force in organisations and have failed to account for the different assumptions or fragmentations within organisations (Martin, 1992). The work of Peters and Waterman (1982) misdirected some leaders’ attentions from understanding culture towards prescribing what it should be. They argued that successful organisations have a set of common cultural characteristics; by contrast, others disagree with that ‘unitary’ concept. Martin (1992) and Goffee and Jones (1996) assert that there is no ‘right’ kind of culture which can be implanted from one organisation to another; rather, this research confirms that there are many subcultures within any large organisation. A variety of investigators have demonstrated that organisational culture is not unitary and reported on the dysfunction caused by subcultural clashes (Jerimier, Slocum, Fry & Gaines, 1991; Van Maanen & Barley, 1984). According

to Schein (1992, 1996), allowing an emphasis on subcultural differences can foster alienation and conflict. However, subcultures gaining an understanding of one another's cultural assumptions are enhanced because subcultures in an organisation also contain common elements typical of the entire organisation (Alpert & Whetten, 1985). Only when certain assumptions are shared across all the units and staffing groups of an organisation can discussion legitimately include the organisational culture.

Therefore, at any time it is possible to find a number of discrete subcultures that have their own integrity at any level. A worldview common in many subcultures, namely that 'my reality is the reality', is an obstacle to achieving successfully a unitary culture in a large organisation. Because of this blinkering created by the varying assumptions held by different groupings, organisational culture cannot be perceived as unitary (Martin, 1992; Pettigrew, 1979; Sackman, 1992; Schein, 1996). Some of these subcultures will typically be in conflict with one another, as is often the case with management, academic, technical support staff and administrative support staff cultures. In time, any organisational unit will produce subcultures as a normal process of evolution.

Course management systems

Course management systems (CMSs) are software systems that are specifically designed and marketed to educational institutions to support teaching and learning and that typically provide tools for communication, student assessment, presentation of study material and organisation of student activities. A university's CMSs form the academic system equivalent of enterprise resource planning (ERP) systems in terms of pedagogical impact and institutional resource consumption (Morgan, 2003). An enterprise system, by its very nature, will impose its own logic on a company's strategy, structure and culture and will push a company towards generic processes even when customised processes may be a source of competitive advantage (Davenport, 1998). The implementation of enterprise systems often reflects a conscious or unconscious move towards standardisation (Morgan, 2003).

One goal of ERP systems is to provide reference models or process templates that claim to embody current best practice. But it is the vendor that is defining what 'best' means, with the result that the system's embedded assumptions can run counter to an institution's best interests (Davenport, 1998). Both the hardware and the software technologies underlying online education are undergoing a continuing process of change and growth (Huynh, Umesh, & Valacich, 2003), which means that any attempt at a fixed definition of 'best' technology is likely to be temporary. As with other enterprise systems, the acquisition of CMSs has become the embodiment of a top-down institutional strategy, with those who select the system often not the people who use them, and the motivations for acquisition being often unstated, unclear or ambiguous (Morgan, 2003).

As with any technology, CMS are not value neutral transmitters of facts but instead carry the values and priorities of their producers (Dutton & Loader, 2002). Rather than being of itself liberating or empowering, technology serves whichever goals motivate the people guiding its design and use (Lian, 2000). Adoption of an enterprise CMS requires some standardisation of teaching and learning. As two of the most highly personalised sets of processes within institutions of higher education, any attempt at standardising teaching and learning is likely to be radical, painful and problematic (Morgan, 2003).

The standardisation of, and the values embedded in, CMS design can create a number of operational conditions for the client institution that push teaching and learning in a particular direction. For example, most CMS vendors assume a self-paced learner and so these systems are not rich in interaction or collaboration tools (Bonk, 2002) beyond simple chat rooms, email and discussion forums. CMSs are by nature structured and have limited capability for customisation (Morgan, 2003). A choice for enterprise CMS made for administrative reasons can result in students having access to different pools of electronic resources, thus affecting the quality of their educational experiences (Dutton & Loader, 2002).

The intersection between enterprise systems and subcultures

Having presented a conceptual account of CMSs, we turn now to analyse the survey data underpinning this paper. If subcultures are understood as being groups with distinctive and specific experiences and values within a broader organisation, we could have selected several subcultural lenses to analyse the survey data, including those of gender, age, length of time at CQU and campus. Constraints of space have restricted our account here to subcultures based on occupational roles and organisational units; we hope to redress this imbalance in future publications.

The online survey was conducted between August and October 2003, and was completed by 91 respondents. Questions were divided into two sections: demographic and attitudinal. Attitudinal questions sought to map such phenomena as the respondents' understandings of what a CMS is and of what makes it effective, and of why CQU selected Blackboard as its preferred CMS.

The demographic data showing the 91 respondents to the survey identified themselves are given in Tables 4 and 5.

Table 4: Demographic data of respondents

GENDER	Female	41	(45.05%)
	Male	48	(52.75%)
	Not stated	2	(2.20%)

CURRENT AGE	20 or under	2	(2.20%)
	21 to 30	19	(20.88%)
	31 to 40	24	(26.37%)
	41 to 50	23	(25.27%)
	51 to 60	19	(20.88%)
	61 to 70	2	(2.20%)
	Not stated	2	(2.20%)

PRIMARY CAMPUS	Brisbane	1	(1.10%)
	Bundaberg	6	(6.59%)
	Emerald	1	(1.10%)
	Gladstone	2	(2.20%)
	Mackay	9	(9.89%)
	Melbourne	1	(1.10%)
	Rockhampton	66	(72.53%)
	Sydney	2	(2.20%)
	Not stated	3	(3.30%)

As stated above, for this paper these demographic data provide background framing rather than the basis of analysis. That basis is concentrated on the respondents' identified occupational or other roles, and on their organisational units, at CQU

Table 5: Role and location of respondents

CURRENT ROLE:	Academic	52	(57.14%)
	Administrative support staff	22	(24.18%)
	Designer	2	(2.20%)
	Head of School	2	(2.20%)
	Manager (i.e., in charge of budget and staff)	2	(2.20%)
	Student	2	(2.20%)
	Technical support staff	7	(7.69%)
	Not stated	1	(2.20%)

PRIMARY FACULTY/ DIVISION	Arts, Health and Sciences	9	(9.89%)
	Business and Law	3	(3.30%)
	Education and Creative Arts	11	(12.09%)
	Informatics and Communication	58	(63.74%)
	Information Technology	3	(3.30%)
	Library Services	1	(1.10%)
	Teaching and Learning Services	5	(5.49%)
	Not stated	1	(1.10%)

In analysing the survey data around the converging and diverging responses of these potential occupational and organisational subcultures, we were aware of some limiting factors. Firstly, the survey was administered at a time when most respondents had no direct experience of using Blackboard, and indeed when many of them had little or no direct experience of using any CMS. (The survey had been intended as a kind of pretest, with a follow-up survey to be administered after Blackboard has become more firmly established at CQU.) Secondly, occupational groups were not represented proportionally: while the largest group was formed by academics, administrative support staff were represented by less than half the percentage of academics, with technical support staff making up about a third of the percentage constituted by administrative support staff and with very small percentages accounting for designers, Heads of Schools, managers and students. Thirdly, there was some overlap among occupational categories: for example, one administrative staff member was also a part-time lecturer, while another respondent identified as both ‘student’ and ‘staff member’.

Because of these limitations, we eschewed a statistical analysis of the survey results in favour of a qualitative analysis based on identifying patterns and disparities in responses to the more open-ended attitudinal questions. We accept that this is selective rather than representative of both questions and responses. Nevertheless we argue that the resulting analysis provides strong evidence for our assertions around the complexity of constructions of best practice attending CMSs at CQU.

These limitations duly noted, our qualitative analysis focused on identifying both similarities in, and occupationally and organisationally structured variations on, responses to two key questions: “What could ‘best practice’ in CQU’s CMSs look

like?"; and "What are key challenges inhibiting the potential attainment of that 'best practice'?". These similarities and variations form the basis of our claims about the intersection of CQU's enterprise culture and subcultures around the discourses attending these questions.

In relation to the first question, about what best practice in CMSs could look like at CQU, we analysed responses to the survey question that asked respondents to supply up to three words or a phrase to complete the sentence, "An effective Course Management System must be –". The most common response, across all occupational roles and organisational units, was "easy to use" or "user friendly". Other common responses included "reliable", "flexible" and "able to achieve its users' purposes". There were some predictable correlations between occupational roles and more specialised responses; for example, technical support staff stated that CMSs must be "secure" and "fully supported" and with "information current". On the other hand, references to CMSs being "easy to navigate" and having "minimum system requirements" and "good help facilities" emanated less predictably from administrative support staff until it is realised that these respondents work in the Faculty of Informatics and Communication, which has the most extensive experience of online teaching and learning at CQU.

We also gleaned some constructions of best practice from the responses to the open-ended question that asked respondents to state the questions that they would most like to be answered from this research project:

> How are they proposing to train academics? Training for academics in PeopleSoft has been extremely poor—how will this be any better managed? (Academic)
>
> Take-up and the comparison of learning outcomes for students across delivery modes. (Academic)
>
> Implementation of one common system, say Blackboard across the university, will force academics to one mode/style of delivery. (Academic)
>
> How is this research going to change academics' attitudes to simply putting the information on the web exactly like they have always done with distance stuff? (Administrative support staff)
>
> Was a needs analysis done that gave examples of each need? (Administrative support staff)
>
> What possibility there is for a more flexible approach to design—rather than being limited to a set structural design. This is deeper than the template used to build the courses, but into how areas within the course can be linked to and what interactivity can be achieved within the Blackboard course space. (Designer)
>
> No matter what 'system' is used, there are always going to be deeper questions, e.g. about the quality of content of courses, who develops/maintains currency of courses, and the qualifications of staff who actually teach the courses at each campus and in the flex mode. (Technical support staff)

Although there are clearly differences in these and other suggested questions used in this research project identifying perceptions of enterprise systems at CQU, we argue that there is also evidence here of at least the potential for a unified version of such a system to be developed around CMSs at CQU. That is, underlying these varied references to issues of cost, design and training is a recognition that there are multiple legitimate stakeholders in the successful outcomes of these CMSs, and an implicit assumption that best practice includes devising strategies to meet the goals and to fulfil the aspirations of as many of those stakeholders as possible.

With regard to the second question that frames this data analysis—about the challenges hindering the attainment of best practice in CMSs at CQU—as might be expected the fault lines among subcultures referred to at the beginning of the paper are relatively easy to discern. One issue that manifested the existence of these fault lines was the question of responsibility for quality control and/or quality assurance for the use of Blackboard at CQU. Table 6 below shows the groups that respondents identified as being the groups most appropriate for taking such responsibility.

Table 6: The most appropriate group to take responsibility for quality control of CMSs

Group	Number of times chosen	Percentage of times chosen
Administrative support staff	8	(12.31%)
Associate Dean (T&L/I)	32	(49.23%)
Designers	9	(13.85%)
Head of School	8	(12.31%)
Technical support staff	8	(12.31%)

Academics demonstrated considerable divergence in identifying the most appropriate quality control/assurance group, with most of them nominating the Associate Dean (Teaching and Learning/International) (ADTL/I), but also with relatively strong support for the Head of School, technical support staff, designers and then administrative support staff. Other groups reflected a similarly widely ranging set of responses to this question.

There was a similar divergence of responses to the question of which organisational unit should take responsibility of the quality control/assurance of CMSs at CQU (see Table 7).

Table 7: The most appropriate organisational unit to take responsibility for quality control of CMSs

Organisational unit	Number of times chosen	Percentage of times chosen
The relevant Faculty	36	(61.02%)
Division of Teaching and Learning Services	16	(27.12%)
Information Technology Division	7	(11.86%)

This set of results evokes difficulties for the attainment of a single enterprise system at CQU based on CMSs, with the majority of respondents favouring faculties but more than a quarter preferring the Division of Teaching and Learning Services (DTLS) and nearly 12% nominating the Information Technology Division (ITD), which has responsibility for the operational viability of the university's computer systems, as the most appropriate unit for overseeing quality control/assurance for such systems. Academics, managers and technical support

staff tended not to nominate ITD, whose principal support came proportionally from administrative support staff.

These fault lines, concentrated around occupational roles and organisational units, were reflected also in some of the additional comments made by respondents to the questions about quality control/assurance:

> NONE of the above! Academics are the only ones who should be responsible for quality control of their materials! If by 'designer' you mean the academic who designs the course material, then that person—but by NO MEANS a DTLS or other 'expert'!….The relevant SCHOOL. NOBODY else has a clue about what the needs are for individual courses. (Academic)

> Definitely NOT ITD; their service can be tardy now—and they are technical experts[,] not necessarily online teaching experts. Give the faculties control over their presence as long as it meets a uni wide standard[.] (Academic)

> Budget controller for each work unit….Chancellery—as a decree will be needed to kill off other systems as CQU can only eventually get expected value from the Blackboard system if it is adopted as the standard approach. (Administrative support staff)

> I think there are two separate quality aspects that need addressing—instructional design (probably DTLS) and academic (ADTLs) (Technical support staff)

Implicit yet pervasive in these discourses around quality (itself also a constructed and contextualised phenomenon) are assumed challenges to the constructions of best practice analysed above. Depending on the respondent's occupational role and/or organisational unit, these challenges are identified as being: non-academics; those outside one's discipline; the conflation of academic, design and technical issues; and the survival of competing systems. We argue that CQU's occupational and organisational subcultures are speaking through these discourses—and what they are saying does not bode well for a unified enterprise system built around university-wide CMSs.

Conclusion: conceptualising 'best practice'

One of the key challenges currently confronting CQU is to manage its complexity in ways that celebrate its diversity without fostering its fragmentation. This challenge has underlain this paper's focus on multiple constructions of 'best practice' around CMSs at CQU.

An equally important implication of that focus is our argument that best practice is not a fixed essence or a single, homogenised, undifferentiated phenomenon. From the perspectives of the survey respondents, best practice around CMSs means different things to different people according to their different worldviews and priorities.

It follows from this that we do not claim that either a single enterprise system or multiple subcultures has/have a monopoly of wisdom with regard to mapping and

promoting best practice at CQU. On the contrary, a key assumption of this paper has been the need to make visible the fault lines between these enterprise systems and subcultures. At the same time, in a context of budgetary constraints and political pressures, there is an equally crucial need to move strategically to embrace and enhance whichever mix of CMSs eventuates in ways that engage with the challenges, and that facilitate the kinds of best practice, identified in this paper.

Notes

1 The data for Tables 1, 2 and 3 were obtained from the Analysis and Planning Division of CQU.
2 *Uninews Weekly*, 9 January 2004.
3. Retrieved January 8, 2004, from http://www.dest.gov.au/highered/statistics/students

References

Alpert, S., & Whetten, D. (1985). Organizational identity. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behaviour* (Vol. 7) (pp. 263–296). Greenwich, CT: JAI Press.

Bonk, C. (2002). Collaborative tools for e-learning. *Chief Learning Officer*, 22–24, 26–27.

Cryle, D. (1992). *Academia Capricornia: A history of the University of Central Queensland*. Rockhampton, Qld: University of Central Queensland.

Danaher, P. A., Luck, J. T., Jones, D., & McConachie, J. (2004, September). Course management systems: Innovation versus managerialism. In J. Cook (Ed.), *Blue skies and pragmatism: Learning technologies for the next decade (Research proceedings 11th international conference ALT–C 2004 14–16 September 2004 University of Exeter, Devon, England)* (pp. 23–35). Exeter, UK: Association for Learning Technology.

Davenport, T. (1998). Putting the enterprise into the enterprise system. *Harvard Business Review*, 121–131.

Dutton, W., & Loader, B. (2002). Introduction. In B. Loader (Ed.), *Digital academe: The new media and institutions of higher education and learning* (pp. 1–32). London: Routledge.

Goffee, R., & Jones, G. (1996). What holds the modern company together? *Harvard Business Review, 74*(6), 133–148.

Huynh, M., Umesh, U. N., & Valacich, J. S. (2003). E-learning as an emerging entrepreneurial enterprise in universities and firms. *Communications of the Association for Information Systems, 12*, 48–68.

Jermier, J. M., Slocum, J. W., Fry, L. W., & Gaines, J. (1991, May). Organizational subcultures in a soft bureaucracy: Resistance behind the myth and façade of an official culture. *Organization Science, 2*(2), 170–194.

Lian, A. (2000, July). Knowledge transfer and technology in education: Toward a complete learning environment. *Educational Technology & Society, 3*(3), n.p.

Martin, J. (1992). *Cultures in organizations: Three perspectives.* New York: Oxford University Press.

McConachie, J. (2001). Who benefits from exploratory business research? The effect of sub-cultures on the implementation of an enterprise system: An Australian regional university perspective. *Queensland Journal of Educational Research, 17*(2), 192–208.

Morgan, G. (2003). *Faculty use of course management systems.* Educause Center for Applied Research.

Peters, T., & Waterman, R. H. (1982). *In search of excellence*. New York: Harper & Row.

Pettigrew, A. M. (1979). On studying organizational cultures. *Administrative Science Quarterly*, *24*, 570–581.

Sackman, S. A. (1992). Culture and subcultures: An analysis of organizational knowledge. *Administrative Science Quarterly*, *37*, 140–161.

Schein, E. H. (1992). *Organisational culture and leadership* (2nd ed.). San Francisco: Jossey-Bass.

Schein, E. H. (1996, Fall). Three cultures of management: The key to organizational learning. *Sloan Management Review*, *38*(1), 9–20.

Van Maanen, J., & Barley, S. R. (1984). Occupational communities: Culture and control in organizations. In B. M. Staw & L. L. Cummings (Eds.), *Research in Organizational Behaviour* (Vol. 6) (pp. 287–365). Greenwich, CT: JAI Press.

Acknowledgments

Thanks to Debbie Murphy for her wordprocessing skills and Cindy Christensen for giving us access to the student enrolment data. Michael Secker's editorial skills enhanced the clarity and readability of the final version of this article.