Resolving relevance, quality and quality assurance: A transitional criteria approach

Rob Cowdroy
University of Newcastle, Newcastle, Australia
Rob.Cowdroy@ newcastle.edu.au

Anthony Williams
University of Newcastle, Newcastle, Australia
Tony.williams@newcastle.edu.au

Erik DeGraaff
Technical University of Delft (TUDelft), Netherlands
erikg@tbm.tudelft.nl

Yves Mauffette
University of Quebec at Montreal (UQAM), Canada
mauffette.yves@uqam.ca

Abstract: Does relevance in higher education equate with quality? Every programme in higher education attracts the interest of a range of stakeholders with a multiplicity of conflicting concerns about relevance and a multiplicity of conflicting criteria of quality. Accreditation, accountability and quality assurance criteria often seem to be contradictory or even mutually exclusive, and national Quality Assurance agenda seem to exacerbate the problem for all fields of higher education. This paper outlines one outcome of a series of international collaborative research and development projects addressing apparent inconsistencies between accreditation requirements, perceptions of good teaching principles, and the accountability expectations of various stakeholders including faculty teaching staff, students, employers and the community. The collective outcome of these projects included development of a Transitional Criteria Framework that allows formal recognition of multiple value systems for assessment, evaluation, accreditation, accountability and quality assurance within a single system.

Keywords: Quality Assurance, accreditation, accountability

Introduction

A major challenge in higher education is to demonstrate relevance and educational quality to an increasingly wide range of stakeholders' conflicting expectations in the name of "accountability". In many cases accreditation (particularly by professional registration authorities) is deemed to represent educational quality, however the criteria for accreditation is focused on relevance that satisfies only a very narrow band of stakeholder interests, and does not address many other criteria of quality as further discussed below.

What, then, of quality assurance (QA)? Despite semantic implications that quality will be assured, QA regimes at all levels (government, institution, department) are typically management processes (inputs) that are independent of performance criteria defined in terms

of educational quality (outcomes). Regrettably, QA regimes tend to reinforce schisms between administration and academic interests in higher education, forcing focus onto administrative processes to the exclusion of quality-outcome interests. QA regimes represent the interests of particular stakeholder groups, but whether they contribute to either relevance or quality of educational outcomes is simply part of a broader question of relevance versus quality. *Assurance* of quality (ie, *real* quality assurance) depends on demonstration of quality against criteria that are understood and accepted by all stakeholders including students, peers, accrediters and various sectors of the community to whom the higher education teaching community is accountable (Nicholls, 2001, 134).

The present paper presents a Transitional Criteria Framework, developed as one of several significant outcomes of a series of joint and collaborative research and development projects in Europe, North America and Australia. The series started as a collaborative project between researchers in the architecture faculties at the University of Newcastle, Australia and the Technical University of Delft (TUDelft), Netherlands, focused on assessment of professional competence and differing meanings of "professionalism". That project subsequently expanded into a broader collaboration (involving researchers in the University of Quebec at Montreal (UQAM), Canada) and a broader exploration of the multiple stakeholders and conflicting expectations affecting accreditation and accountability in higher education, particularly in terms of international cross-accreditation of programmes.

The significance of the Transitional Criteria Framework is its capacity to accommodate multiple value systems within a single framework that can be read and appreciated, selectively and comprehensively, by all main stakeholder groups for any given educational programme. The value of the Framework is in its potential to answer demands for transparency and accountability to diverse stakeholders.

Conflicting expectations

The research found that quality often depends on perceived relevance to the respective interests of various stakeholder groups. For purposes of this discussion, it is suggested that the main stakeholder groups with significant interest in higher education programmes are:
- academic teachers who prepare and present the programmes;
- students who undertake the programmes;
- graduates who benefit from the programmes;
- employers of graduates who benefit from the knowledge and skills of the graduates;
- accreditation bodies (where applicable) who endorse the programmes on behalf of their respective disciplines;
- the community that benefits from the contribution of the discipline;
- education specialists who are concerned with the quality and outcomes of the teaching process (particularly as a consequence of new preoccupations with QA).

Each stakeholder group (perhaps understandably) expects all of what it considers relevant to be included in respective educational programmes. What is perceived as relevant by one stakeholder group, however, is often perceived as irrelevant by another, and therefore to be excluded (Cowdroy, 2000 a, b). This inclusion/exclusion nexus creates conflicts between stakeholder perceptions of relevance and quality and dilemma for teachers and institutions trying to achieve quality education. Consider, for example, accreditation authorities which are stakeholder groups typically preoccupied with ensuring minimum standards (of discipline-based knowledge content). Employers of graduates are other stakeholder groups typically preoccupied with personal attributes such as motivation, initiative, self-direction and cooperation (de Graaff & Ravesteijn, 2001). Knowledge and personal attributes are not

necessarily mutually exclusive, but accreditation requirements typically commandeer the whole curriculum, to the exclusion of personal attributes.

For further example, consider community, institution and government stakeholder groups, all of which generate accountability requirements that are increasingly demanding of transparent demonstration (examination) of knowledge. The research indicated that, in practice, this pressure leads to restriction of assessment to univalent criteria and methods, and of curriculum to modular content, creating conflict with the interests of education specialist stakeholder groups who are preoccupied with quality of teaching and learning and whose expectations typically include integrated content, teaching and assessment methods (Eraut, 1994; 2000).

While all stakeholder groups can agree on some general principles, and many subscribe to "standards" and "excellence" in education, notions of what constitute standards and excellence were found to vary significantly among stakeholder groups. Accreditation authorities, particularly in the case of professions such as medicine, engineering, architecture and law, have mandates to maintain "minimum standards" in discipline-based knowledge at graduation (Cowdroy & Chapman, 1999). Many, however, "rope-in" additional agenda outside their prerogative, including particularly issues of teaching staff and practices. Pressure on academic departments to maintain accreditation was found to translate into pressure on teachers and students to focus on discipline-based knowledge as the only relevant curriculum and the only legitimate indicator of quality (Cowdroy & Mauffette, 1999; Eraut 2000). Employers of graduates (also as discussed above), however, were found to rank individual attributes and propensities such as self-motivation and problem-solving ability ahead of specific discipline-based knowledge, in their criteria for rating graduates as acceptable or excellent (Nielson, 2000, Nichols, 2001). Thus, the expectations of employers reflect criteria that differ significantly from those used for accreditation.

Students and graduates were found to rate satisfaction, status and workload issues ahead of individual attributes and discipline-specific content, with emphasis on individual satisfaction and cost-benefit in terms of effort required to achieve that satisfaction (Claessens et al, 1996; AC Nielsen, 2000). A cynic might consider employers and student/graduate expectations as mutually exclusive. A more positive observer might see a potential for alignment between student satisfaction and employer expectations, particularly in relation to career-based or professional programmes (Schmidt & Van der Molen, 2001).

Academic teachers in higher education form a key stakeholder group, which might be expected to be aligned with best-practice teaching ideals, however few were found to be education specialists and most were found to align their educational objectives with customs and accreditation requirements in their respective disciplines, with little regard for the methods or quality of the teaching/learning processes (Institution of Engineers, 1996; Cowdroy & Mauffette, 1999; Eraut, 2000). Traditional engagement of professional practitioners (untrained in teaching) as conjoint or part-time sessional teachers in professional education programmes was shown to reinforce dependence on elemental content and traditional teaching processes and to militate against development of teaching quality.

The research found that educational specialists have lately emerged as a further stakeholder group of growing significance as arbiters of educational quality, particularly in relation to developing preoccupations of government and institutions with QA. This group's focus on evaluation of generic teaching effectiveness, is widely rejected by academic teachers as disregarding discipline-specific content and irrelevant to accreditation. Attributes such as self-motivation and problem-solving seen as relevant by employers, and satisfaction, status and

workload cost-benefit seen as relevant by students, were shown to be typically considered by academic teachers to be desirable but outside the accreditable curriculum for the discipline and therefore to be rejected as irrelevant (Eraut, 2000). This rejection was found to be based on spurious notions that:

- what is relevant must be assessed;
- what is assessed must be taught;
- and what is taught must be taught only by academic teachers who are experts in the particular discipline-specific content.

This confused rationale was found to be further complicated at the institutional level by fears that displacement of discipline-specific content will lead to loss of accreditation (with enrolment and income consequences) and, at the department level, by fears that 'credits' used to pay expert research staff as teachers will be diverted to pay for expert academic teachers imported from other disciplines. At the individual level, dominant fears appeared to be of loss of control over subject content, and of loss of academic freedom.

Academic freedom

In most cases control and 'academic freedom' appeared to closely related to each other and to Alexander von Humbold´s concept of academic freedom. However, von Humbold's concept referred primarily to the freedom of a scientist to decide which topics to focus research on. Perhaps it is the unity of research and teaching in the ethos of a university that has led teachers to assume comparable individual freedom to determine what is taught, how it is taught and when it is taught. These concepts of academic freedom, however, are incompatible with contemporary western society's expectations of broad-ranging accountability, and isolate academic teachers, courses and programmes from the interests of other stakeholders, including those of the students. This isolation has led to increasing dissatisfaction among stakeholders and to various interventions by institutions and governments on the stakeholders' behalf (Cowdroy & Chapman, 1999; McKinnon et al. 2000; Harmon & Meeks, 2000)..

External intervention

External intervention has taken various forms. Several actions, both supportive and punitive, can be seen to have been taken by governments, including particularly:

- attempts to standardise higher education by application of competency standards;
- external peer review protocols;
- quality assurance audits of educational institutions;
- conditional funding based on various types of performance criteria.

A further government intervention is pressure for cross-accreditation between states within countries such as the USA, Canada and Australia, and between countries such as in the European Union (Cowdroy & Chapman, 1999; Sporn, 1999; Heitmann, 2000). The justification, effectiveness and impact of these and other interventions are debated at length elsewhere, and are beyond the scope of the present discussion. For present purposes such interventions are considered as established components of the higher education environment. They are also recognised as external responses to perceived failure of the higher education community to adequately demonstrate that it meets a sufficiently broad range of stakeholder expectations (Cowdroy & Chapman, 1999; Nicholls, 2001).

A question of quality: who is the arbiter of quality?

No clear evidence was discovered to indicate that teaching quality in higher education is deficient, but there was also no convincing evidence found that would indicate that teaching

quality is good, or even adequate. There is a wealth of anecdotes, opinions and myths, but little that would convincingly demonstrate quality and satisfy quality assurance or accountability to independent or arms-length reviewers, or to major stakeholder groups (Cowdroy & Chapman, 1999).

Evaluation of teaching was found to be generally resented (by teachers and their unions) as an attack on the expertise and academic standing of individual academic teachers and their respective disciplines, particularly if that evaluation was to be undertaken by anyone other than an "expert" from the same discipline. Even where education experts had been engaged for the specific purpose of assisting in curriculum development, the outcomes had usually proved to be unsustainable, largely because the developments were typically disowned by the discipline specialists, reinforced by strong gravitational pull back towards the customary educational practices of that discipline (Maister, 1997; Nicholls, 2001). In many such cases, "dogmatic forms" of the development (e.g. tutorial-based teaching) and the terminology (e.g. problem-based learning, project-based learning and pathway approaches) were found to remain long after the educational development has been emasculated, the rationale had been abstracted and the advantages had evaporated (De Graaff & Cowdroy, 1997).

Stakeholder power of influence

In a public-funded education environment, government was shown to have a very big financial and political stake and a very powerful influence. In a privately funded education environment, benefactors and families of students were found to have considerable investment stake and influence over enrolments. Most universities depend on both public and privately funded enrolments, and so are subject to both environments and a multiplicity of powerful stakeholders. Employers of graduates, too, were shown to have a significant stake, particularly with respect to employee cost and quality, and to have powerful influence through selective employment. The research found that graduates are generally employed within discipline-specific organizations, and that their immediate employers have close connections with discipline-based accreditation of programmes (Cowdroy & Mauffette, 1999). In many cases this was shown to create a confusion of expectations as discussed above.

Students and graduates have perhaps the most sensitive stake: their careers. Students' satisfaction is significantly affected by the standing of the programme in the discipline (Eraut, 1994; Claessens et al, 1996; Crick & Cowdroy, 1999). Graduates' expectations were shown to differ from those of students, and to be affected by both their past experiences as students, and their employability experiences, as well as by the standing of the programme and institution. The influence of graduates was observed to be particularly powerful in word-of-mouth recommendations to prospective students and their families. The institutions themselves might also be assumed to have a substantial stake in the standing and outcomes of the educational programmes they offer. The great majority of universities are primarily recognised in the community as educational institutions, notwithstanding the rhetoric focus on research, and their standing and funding depend on their educational reputations.

Unlocking the problem

This research has indicated that government interference, oversized administrations and bureaucratised education are not causes of the problem of loss of community support; they are downstream effects of the academic community's insistence on archaic principles of academic freedom and denial of the legitimacy of other stakeholders' concerns about assurance of quality in higher education (Cowdroy, 1990; Eraut, 1994; Crick & Cowdroy, 1999). Each

of the stakeholder groups indicates a primary focus on only a part of the total spectrum of interests, and lesser interests in other parts, as indicated in Table 1. If we recognise the primary focus of each stakeholder as the area of primary *authority*, the areas of authority can be seen to be complementary rather than competitive, except perhaps in the traditional nexus between the respective interests of accrediters and academic teachers.

Table 1. Stakeholder focus, authority and evaluation criteria

STAKEHOLDER	PRIMARY FOCUS = primary authority	EVALUATION Criteria
Accrediters	discipline content	minimum standards
Academic teachers	discipline content	individual knowledge
Students	consumer benefits	individual satisfaction
Employers	workplace performance	individual attributes
Ed. Specialists	teaching quality	learning outcomes
Community	social benefit	educational quality

If we were to adopt and this rationale, then for any given programme:
- accrediters would have primary authority for determining discipline-specific content and assessment *at* the minimum pass/fail threshold (ie, the minimum standards)
- academic teachers would have authority for determining discipline-specific content and assessment *above* the minimum pass/fail threshold, and teaching methods to be used;
- education specialists (who may also be discipline specialists) would have primary authority for evaluating quality of teaching outcomes;
- students would have primary authority for evaluating "customer satisfaction" issues to be incorporated into the curriculum;
- employers would have primary authority for workplace performance issues to be incorporated into the curriculum;
- the community or government would have primary authority for determining social benefit outcomes.

If we now look at the evaluation criteria typically used by each of the stakeholder groups with respect to the respective primary focus (Table 1), we find that the criteria are complementary rather than competitive and that it should be possible to satisfy the primary expectations of all stakeholder groups without compromise. For the purpose of this outline presentation, the criteria are intentionally expressed in very general terms but without denying the complexity and diversity of specific expectations that apply to individual programmes and graduates across the higher education sector. At a more detailed level of application to particular programmes, the researchers found significant "alignments" of expectations among stakeholder groups, particularly in professional education, where the expectations of teachers, students, graduates, accreditation bodies and employers are all more or less aligned with notional model practitioners (DeGraaff & Cowdroy, 1995), i.e. what a model doctor, lawyer, nurse, school teacher, engineer, etc *supposedly* is and does.

Similar alignments were also found in the sciences, although here the alignment is related more closely to the *role* expected of a scientist (i.e. what a scientist does) rather than to the whole person (Cowdroy & Mauffette, 1999). In general terms, the expectations of academic teachers, students, graduates, accreditation bodies, employers and the community in relation to science programmes and graduates are related closely to an experimental, analytic role in a laboratory (i.e. what a chemist, biologist, or physicist *supposedly* does). Other disciplines are less-well aligned, as evidenced by recent and current debate about the value and place of the humanities in higher education.

Solving the problem: a bottom-up approach

Top-down initiatives by governments and institutions to raise education quality have been demonstrably unsustainable (DeGraaff & Cowdroy, 1997). On the other hand, the research also indicated that many sustained initiatives (e.g. distance education, Problem-Based Learning, on-line learning) had been "bottom-up" initiatives by academic teachers in various disciplines such as Woods at McMaster (Ontario, Canada) and Schön at Milwaukee (Wisconsin, USA), and groups of academic teachers, for instance in medical education at Maastrcht (Netherlands), McMaster and Newcastle (Australia), in architectural education at Newcastle (Australia) and in engineering education at Aalborg (Denmark). In all these cases, the initial motivation was driven by academic teachers' recognition of the expectations of multiple stakeholder groups as essential components of the educational objectives, curriculum and assessment (DeGraaff & Cowdroy, 1997).

Formal and informal assessment

Most course and programme descriptions are focused exclusively on discipline-based knowledge (theory and application). To achieve a Pass grade, it is usually necessary to achieve a satisfactory result in both theory (typically per examinations) and application (typically per assessment of assignments). Few course descriptions declare the criteria for higher grades (Credit, Distinction, etc) except that they are derived from numerical "marks" (eg, 65%; 75%) (Crick & Cowdroy, 1999). In practice, however, most individual "assessments" of students in higher education were found to engage a mix of methods including:

- *examination* of the essential memorised theoretical knowledge in formal examinations;
- *assessment* of the application of theory (in essays and assignments);
- *evaluation* of the student's professional skills and personal attributes in the application of theory in context
- *recognition* of the outstanding student/s (usually on the basis of some extramural facility).

These various "assessments" were also found to embrace significant undeclared, informal criteria, "roped in" to provide the basis for grades above Pass, as indicated in Table 2. Informal criteria are not declared in course and programme descriptions but, nevertheless, are widely used to determine higher grades.

Table 2. Formal and informal assessment criteria

GRADE	FORMAL CRITERIA	INFORMAL ADDITIONAL CRITERIA
Outstanding	Highest Theory + Applied	+ extra prof skills + personal attributes + extramural
Distinction	Higher Theory + Applied	+ extra prof skills + personal attributes
Credit	Higher theory or Applied	+ prof skills
Pass	Minimum Theory + Applied	Nil
Fail	Fail Theory or Applied	Nil

The research indicated that few academic teachers admit to use of informal criteria, and that most, particularly in the sciences and applied sciences, claim to be "objective" or precise in all their assessment. Nevertheless, it was found that most assessment in higher education can be shown to be subjective, particularly at all levels above the pass/fail margin, and that nearly all academic teachers habitually employ combinations of formal and informal criteria, even in ungraded pass assessments, and even in many "right/wrong" choice examinations (Eraut, 1994, 2000; Crick & Cowdroy, 1999; Cowdroy & Mauffette, 1999).

Integration of assessment, accreditation and evaluation

The expectations of all stakeholder groups, including the students themselves, were found to be focused on the individual graduate *at graduation*, and dominated by consideration of individual students at the lowest (marginal) fail/pass level and at the highest (scholarship-competitive) level (Claessens et al, 1997; Crick & Cowdroy, 1999). Accrediters, however, were found to be obliged to focus on the content and assessment methods at the minimum standard level, while employers and the community were found to focus on individual graduates in the upper grades in each cohort (Cowdroy, 1990; Cowdroy & Chapman, 1999), and education specialists were found to focus on group-wide distribution of outcomes. Thus, the various stakeholders could not only be considered as having distinct areas of primary authority, and as applying complementary criteria, but could also be seen to have focal interest in students at particular grade levels. The challenge, then, has been to integrate these multiply-distinct stakeholder interests into a single framework that engages the multiple value systems and, therefore, uses "transitional criteria" that can be ranked differently and expressed in various terms, to satisfy the various stakeholders.

The Transitional Criteria Framework

A Transitional Criteria Framework, shown in Figure 3, is reasonably representative of the overall student performance, against all criteria, at graduating level in higher education. The respective value systems of the various stakeholders for any given programmeme, can be indicated (in the appropriate column), and can be considered in relation to all other criteria for all other stakeholders.

Figure 3. The Transitional Criteria Framework: aligning formal and informal assessment criteria with stakeholder primary interests

GR	FORMAL	INFORMAL	Teach	Accred	Students	Employs	Comm	Ed Spec
O	Hst T + A	+ ps + pa + em	√		√	√		
D	Hr T + A	+ ps + pa			√	√	√	√
C	Hr T or A	+ ps			√		√	√
P	M T + A	Nil	√	√	√			√
F	F T or A	Nil	√	√	√			

This Transitional Criteria Framework provides opportunities for all higher education faculty to recognise and address the diverse expectations of multiple stakeholders, and to formalise informal assessment criteria and practices. The Framework allows the methods used and the various criteria to be formally declared in terms understood by the respective stakeholder groups, and performance against each and all criteria to be demonstrated so the whole process, criteria and outcomes are transparent to the whole spectrum of stakeholders.

Conclusion

The Framework extends the engagement approaches used by several professional education programmes around the World that have been most successful in achieving long-term highest accreditation. Use of the Framework is expected to enhance the engagement and education of the various stakeholders in the determination of criteria and in demonstration of outcomes, and is expected to be a most successful strategic approach to sustaining accreditation and accountability, to satisfying QA agenda, and to enhancing the standing and recognition of programmes across the whole range of diverse disciplines in higher education.

References

A.C.Nielsen Research Services (2000) *Employer satisfaction with graduate skills*, Research Report, Evaluations and Investigations Programme, DETYA, Canberra.

Claessens, M, de Graaff, E, W. Jochems, W & Cowdroy, R., (1996) Student evaluation of a problem based course in architecture, in *Research and Development in Higher Education* Vol 3, Higher Education Research and Development Society of Australasia, conference proceedings(pp. 67-78), University of NSW, Sydney,

Cowdroy, R. (1990) *Fitness for Practice*, report to the National Education Committee of the Royal Australian Institute of Architects, Canberra

Cowdroy, R. & Mauffette, Y (1999) Thinking Science or Science thinking? The Challenge for Science Education, in Conway, J and Williams, A, eds, *Themes and Variations in PBL*, PROBLARC, Newcastle.

Cowdroy, R., (2000 a) At The Boundaries The Rules Must Change, *les Cahiers de l'enseignement de l'architecture* No 6, European Association for Architectural Education, Louvaine-La Neuve, Belgium.

Cowdroy, R., (2000 b), Contract Assessment: Self-Evaluation and Empowerment for Excellence, *les Cahiers de l'enseignement de l'architecture* No 6, European Association for Architectural Education, Louvaine-La Neuve, Belgium.

Cowdroy, R & Chapman, M (1999) *Architectural Competencies*, report to the Architects Accreditation Council of Australia, Canberra.

Crick, M & Cowdroy, R, (1998) Assessing Brilliance, *Research and Development in Higher Education* Vol 4. Higher Education Research and Development Society of Australasia, conference proceedings, University of New South Wales, Sydney.

De Graaff, E. & Cowdroy, R. (1995), Introduction of problem-based learning in architecture: two case studies, *Journal of Theory and Practice of Educational Innovation*, Montreal.

De Graaff, E. & Cowdroy, R. (1997). Theory and Practice of Educational Innovation; Introduction of Problem-Based Learning in Architecture. *International Journal of Engineering Education*. 13;3.

De Graaff, E & W. Ravesteijn (2001) Training Complete Engineers: Global Enterprise and Engineering Education, *European Journal of Engineering Education*, Vol 26, N0 4, 419-427.

Eraut, M., (1994), *Developing Professional Knowledge and Competence*, Falmer Press, London

Eraut, M (2000) Non-formal learning and tacit knowledge in professional work, *British Journal of Educational Psychology*, 70, 113-136.

Harman, G. & Meeks, V. L., (2000), *Repositioning Quality Assurance and Accreditation in Higher Education*, DETYA, Canberra.

Heitmann, G (2000) Quality Assurance in German Engineering Education against the Background of European Developments In: Russel Jones (ed.) Accreditation and Quality Assurance, Special Issue *International journal of Engineering Education* Vol. 16 Nr. 2

Institution of Engineers, (1996), *Changing the Culture: Engineering education into the future*, Review Report, Institution of Engineers, Australia, Canberra.

Maister, D., (1997), *True Professionalism*, The Free Press, New York

McInnis, C., Hartley, R. & Anderson, M., (2000), *What Did You Do With Your Science Degree?* A national study of employment outcomes for Science degree holders 1990-2000, Centre for the Study of Higher Education, University of Melbourne.

McKinnon, K. R., Walker, S. H. & Davis, D., (2000), *Benchmarking: A Manual for Australian Universities*, DETYA, Canberra.

Nicholls, G., (2001), *Professional Development in Higher Education*, Kogan Page, London

Schmidt, H.G. & Henk T. van der Molen (2001) Self-reported Competency Ratings of Graduates of a Problem-based Medical Curriculum. *Acad Med* Nr. 76: 466-468.

Sporn, B. (1999) Current Issues and Future Priorities for European Higher Education Systems. In: Philip G. Altbach & Patti McGill Peterson (eds.) *Higher Education in the 21st Century: Global Callenge and National Response*. Annapolis Junction: Institute of International Education

Acknowledgements