How do quality assurance systems accommodate the differences between academic and applied higher education?

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Abstract   Although the literature on institutional diversity suggests that quality assurance practices could affect institutional diversity, there has been little empirical research on this relationship. This article seeks to shed some light on the possible connection between quality assurance practices and institutional diversity by examining the arrangements for quality assurance in higher education systems that include two distinct sectors, one of which having a more academic orientation and the other a more applied orientation. The article explores the ways in which quality assurance structures and standards in selected jurisdictions provide for recognition of the differences in orientation and mission between academic and applied sectors of higher education systems. The research identified some features of quality assurance systems that recognize the characteristics of applied higher education, such as having different statements of expected learning outcomes for applied and academic programs or requiring different qualifications for faculty who teach in applied programs. It is hoped that the results might be of interest to policy makers and quality assurance practitioners who are concerned about the possible impact of quality assurance on institutional diversity.

Introduction

Quality and institutional diversity are widely regarded as important properties of an effective system of higher education. It has sometimes been suggested, however, that the manner in which quality assurance processes are designed or conducted could have the effect of

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constraining or reducing institutional diversity. In an essay on problems in the transition from elite to mass higher education, Trow (1973) expresses concern that quality assurance processes could impede the development of different forms of higher education. He observes that "the criteria against which new forms of mass higher education are assessed are typically those of the older, costlier forms of elite higher education" (Trow 1973, p. 35). In a similar vein, Birnbaum (1983) suggests that it may be necessary to modify criteria and approval processes for new programs in order to increase institutional diversity.

In the essay on institutional isomorphism that is cited in much of the literature on institutional diversity in higher education, DiMaggio and Powell (1983) suggest that having state standards in education might make schools more alike. Others have suggested that national systems of quality assessment may bring with them the "risks of homogenization" (Bauer and Kogan 1997, p. 141) of the higher education system (see also Bauer 1994; Stensaker 2000). The relationship between quality assurance and institutional diversity was one of the themes at the 2012 member forum of the International Network of Quality Assurance Agencies in Higher Education (INQAAHE) held in Melbourne, Australia. One of the papers delivered in that thematic session defined the main issue as being how to "evaluate institutions without undermining diversity" (Griggs et al. 2012, p. 7). Miroiu and Andreescu (2010) concluded that accreditation and quality assessment procedures were important contributors to the "strong tendency toward institutional homogeneity in Romanian higher education" (Miroiu and Andreescu 2010, p. 89).

This paper seeks to shed some light on the possible connection between quality assurance practices and institutional diversity by examining the arrangements for quality assurance in higher education systems that consist of two distinct sectors, one of which has a more academic orientation and the other a more applied orientation. The research for the paper involved an examination of the structures and criteria employed in external quality assessment and accreditation by national and regional quality assurance agencies. The objective was to discover the ways, if any, by which quality assurance structures and criteria recognize the difference in orientation and mission between academic and applied sectors of higher education systems.

While this study concentrates on differences *between* postsecondary sectors, it is important to note that there is also variation along the academic-applied continuum *within* sectors, particularly within the university sector. For example, the question that is the focus of the study could be asked also in regard to the distinction between traditional academic disciplines and some professional fields *within* the university sector.

The next section briefly describes the distinction between applied and academic higher education and notes some key developments in different jurisdictions pertaining to this distinction. The following section describes the methodology for the study, including the rationale for the selection of the jurisdictions that are included in the study and for the features of the quality assurance process on which the study focuses. The analysis and findings which are presented in the fourth section of the paper are based upon the documents of quality assurance agencies of the selected jurisdictions.

The distinction between applied and academic sectors of higher education

Institutional diversity refers to differences between postsecondary institutions with respect to specific characteristics such as size, range of disciplines offered, and highest degree awarded (Birnbaum 1983; Huisman 1995). Birnbaum (1983) identified seven categories of

dimensions of diversity with multiple factors within each category, and building on his work and that of Huisman (1995), a more recent study published by the association for the study of higher education (Harris 2013) groups the factors into five categories: systemic; programmatic; procedural; constituential; and reputational. In none of these descriptions of the various ways in which institutions can differ from one another is the distinction between an applied and an academic orientation presented as one of the categories of diversity. However, aspects of this distinction could be subsumed under the dimensions of institutional mission and methods of instruction.

In a number of countries, higher education systems consist of two distinct sectors, one of which has a more academic orientation and the other a more applied orientation. Universities make up the sector with the more academic orientation, while the institutions in the more applied sector go by a variety of names, e.g., *Fachhochschulen*, *Hogescholen*, colleges of professional education, institutes of technology, and polytechnics. In many countries, non-university postsecondary institutions concentrate on offering programs of an applied nature. On the other hand, in some countries, particularly in North America, many of these institutions offer both applied programs and the first 2 years of university-equivalent liberal arts and sciences courses. However, even in the USA, the majority of enrolment in community colleges is in applied programs (Cohen et al. 2014). In this article, the term applied sector includes both those institutions that concentrate on vocationally oriented programs and the vocational education stream in dual-function community colleges.

The applied orientation of the non-university sector in higher education is manifested principally in two ways. One is in the emphasis on preparing graduates for the workforce which results in concentration on programs that relate to specific occupations rather than to academic disciplines. The other way is by relying significantly on experiential and contextual learning and on learning-by-doing rather than on traditional academic pedagogies (Walker and Floyd 2005; Wheelahan et al. 2009).

Applied sectors of higher education evolved at different paces in different countries during the last four decades of the twentieth century from vocational institutions that were not originally viewed as institutions of higher education (Grubb 2003; Teichler 2008), beginning with polytechnics in the UK (which later became universities) in the 1960s (Matterson 1981; Pratt 1997). In the Netherlands, the government encouraged the transformation of a diverse array of occupation-specific technical and vocational institutions into the *Hogescholen* (HBO) sector of higher education (Huisman 2008). The principal reasons for encouraging this transformation were that it was less costly to provide degree-level education in the HBOs than in the universities, and that the applied type of education that they provided was thought to be beneficial for the growth of the economy (Huisman 2008). In many European countries, developing a parallel system of degree-granting institutions with an applied focus also served to extend the academic/vocational streaming in the schools into postsecondary education, thereby opening up degree opportunities to students who had been streamed away from the university admission pathway in the secondary school (Slantcheva-Durst 2010). In many countries, for example, Germany (Klumpp and Teichler 2008), having an applied sector of degree-granting institutions helps to increase baccalaureate attainment for persons from lower socioeconomic backgrounds, as they tend to be underrepresented in traditional universities.

Many students have found the opportunity to study in applied sector institutions attractive because of cost, employment prospects, the attractiveness of hands-on learning, and the emphasis on teaching that is common in such institutions. Applied sectors account for a substantial proportion of degree-level education in many countries. For example, in

three European countries or regions baccalaureate-level enrolment is greater in the applied sector than in the traditional university sector: the Netherlands (Higher Education Strategy Associates 2012; Statistics Netherlands 2013), Finland (Finnish Ministry of Education and Culture 2009a), and Flanders (Huys et al. 2009); and in one, Ireland, baccalaureate enrolment is about the same in the two sectors (Higher Education Authority of Ireland 2013). In two countries, Germany (Klumpp and Teichler 2008) and Denmark (Danish Evaluation Institute 2010), applied sector enrolment is between a third and a half of total baccalaureate enrolment. In one European country, Austria (Hackl 2008), and one country outside Europe, New Zealand (New Zealand Ministry of Education 2011), the applied sector accounts for about one-fifth of baccalaureate enrolment.

In North America, the movement of non-university postsecondary institutions, such as community colleges, into baccalaureate granting occurred more recently than in Europe, and has not advanced nearly as far as in the European countries just noted. While non-university institutions in six Canadian provinces and one territory now have some form of degree-granting authority (Weinrib and Jones 2014), most of the baccalaureate degree programs of non-university institutions are in just three provinces: British Columbia, Alberta, and Ontario (Skolnik 2013b). Russell (2013) reported that 57 community colleges in 18 American states had received approval to award baccalaureate degrees, one-third of the institutions being in Florida. The proportion of total baccalaureate activity that is accounted for by the community college sector in the USA and Canada is <2 % except in Florida where it is about 5 % (Florida Board of Governors 2014; Floyd and Falconetti 2013). In Australia, the institutions of Technical and Further Education (TAFE) have recently started to offer baccalaureate programs and appear to be following a similar trajectory as many community colleges in North America (Wheelahan et al. 2009).

The distinction between applied and academic orientations of higher education institutions is admittedly a simplification, and one that has been difficult to explicate (Machado et al. 2008; Skolnik 2013b) in part due to the paucity of research on the pedagogies used in career education (Achtenhagen and Grubb 1999). Nevertheless, this conceptual dichotomy is widely used in higher education discourse and, as will be seen, appears frequently in the manuals of quality assurance agencies, such as the accreditation agency of the Netherland and Flanders and the Campus Alberta Quality Council. Moreover, the most recent edition of the International Standard Classification of Education (UNESCO 2012, p. 52) distinguishes between these two categories of program orientation for bachelor programs.

The objective and method of this study

In this study, the author examined the documents of quality assurance agencies for those jurisdictions outside North America where it could be determined from the literature that at least 20 % of baccalaureate-level enrolment was in the non-university sector; and the North American jurisdictions in which non-university institutions were offering the largest numbers of baccalaureate programs—or in the case of Alberta,[1] had offered a substantial number of programs until recently. Quality assurance arrangements in Australia were also brought into the purview of the study because of the similarity of developments in the TAFEs to those in North American community colleges and technical institutes.

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[1] In 2009, the two non-university institutions in Alberta that offered the largest numbers of applied baccalaureate programs became universities, thus significantly reducing the number of baccalaureate degrees awarded by the non-university sector (Skolnik 2013b).

Thirteen national and sub-national jurisdictions thus met the condition for inclusion in this study that pertained to offering baccalaureate programs in an applied sector of higher education: Alberta, Australia, Austria, British Columbia, Denmark, Finland, Flanders, Florida, Germany, Ireland, the Netherlands, New Zealand, and Ontario. Finland was subsequently excluded from consideration for all but one of the quality standards discussed in this paper, because the responsibility for quality rests with the individual universities and the polytechnics, and the Finnish Higher Education Evaluation Council audits only their quality assurance processes (Finnish Higher Education Evaluation Council 2012). However, since all institutions are expected to achieve nationally defined learning outcomes, Finland was included in the review of the expected learning outcomes standard. In principle, the process audit approach provides the flexibility to recognize the differing orientations of the two higher education sectors with respect to other quality standards. However, empirical study at the institutional level would be necessary to determine the extent to which the applied orientation of institutions in Finland's non-university sector actually is recognized. Germany was excluded from the analysis of quality assurance standards because of the pluralistic nature of its quality assurance system. Postsecondary institutions in Germany have considerable choice among regional, national, international, and subject-specific agencies from which to seek accreditation (Suchanek et al. 2012). Without knowledge of the choice patterns of the *Fachhochschulen* and the universities, it would be impossible to make comparisons with structures and practices in other jurisdictions. In contrast, while universities in Florida may seek discipline-specific accreditation in particular fields, all of the public universities and all of the colleges must obtain regional accreditation from the same accreditation agency, thus providing a common frame of reference for comparing policies (Florida Board of Governors 2012; Florida Department of Education 2014).

The exclusion of Germany and the near exclusion of Finland left 11 jurisdictions for examination of other quality standards. Of these, it was not possible to obtain full information for all jurisdictions for all of the factors of interest. For example, recently there has been a major reorganization of higher education quality assurance in both Austria and Ireland, and new protocols are in the process of being developed but have not yet been published on the Web sites of relevant agencies. Also, quality assurance documents in some jurisdictions provided more detail than those of other jurisdictions with respect to some quality standards, but less with respect to other standards. Accordingly, for purposes of understanding differences among jurisdictions, the descriptions of particular practices in different jurisdictions may be more useful than the frequency counts of particular features of quality assessment systems.

The documentation produced by quality assurance agencies contains considerable detail about quality assurance processes, including descriptions of the quality standards used in assessment and accreditation. The number of distinct quality standards and/or quality benchmarks varies considerably but is quite large in some jurisdictions, for example more than 200 in one Canadian province. Investigation of each and every aspect of the quality assurance processes in a dozen countries could be a daunting task, but also one that might be largely fruitless in relation to the purpose of this study because many of those aspects do not have implications for the distinction between applied and academic higher education.

A more efficient and useful approach to addressing the fundamental question posed in this study would be to identify those aspects of the quality assurance process where one might expect that there would be significant differences in the needs of applied and academic sectors of higher education. Or, in response to Trow's observation that was cited earlier, one might ask what are the elements of quality assurance where assessing applied

institutions or programs by criteria that are more appropriate to academic institutions or programs could have a particularly deleterious impact on applied higher education? There is no mechanistic way of identifying such elements. The sources used for identifying the relevant elements were: the literature on applied sector institutions and the literature on quality assurance, including documents produced by and about quality assurance agencies.

A common practice in quality assurance in higher education is to start with the articulation of expected learning outcomes, and then to assess how well the educational processes contribute to the achievement of those learning outcomes. In the previous section, it was argued that applied sector institutions were established for the express purpose of producing different types of learning outcomes than traditional universities, That being the case, it could be dysfunctional to assess applied sector institutions according to how well they were achieving the learning outcomes that are appropriate for more academically oriented institutions. Thus, one of the elements of quality assurance that would seem to be particularly important to include in this study is the treatment of learning outcomes. Specifically, we would want to know if/how quality assurance systems accommodate the differences in learning outcomes between applied and academically oriented institutions or programs. Recognition of the distinction between academically oriented and more vocationally oriented learning outcomes is found in the development of generic statements of the qualifications of higher education graduates in Europe. One of the earliest generic statements of expected learning outcomes to be widely accepted in different countries was the qualification framework of the European higher education area (QF-EHEA) which was adopted by the Ministers of Education of the Bologna process in 2005. However, the QF-EHEA consists mainly of statements of the kinds of competencies that one might expect to be developed in a traditional university program (Mitchell et al. 2013). It was largely because of the limited reference in the QF-EHEA to the kinds of workplace competencies that would be developed in an applied program of study that another generic qualifications framework was developed in Europe, the European Qualifications Framework for Lifelong Learning (EQF-LLL).

Another of the principal motives for the development of applied sectors of higher education was to democratize higher education, or as Kyvik expressed it, "to increase accessibility of higher education in a society with distinct class boundaries" (Kyvik 2004, p. 399). Imposing the same requirements for admission to baccalaureate programs in technical colleges as existed in the universities would have impeded the achievement of this goal. On the other hand, having different admission requirements than the universities might jeopardize the academic credibility of the degrees earned in applied sector institutions. This kind of tension over admission requirements was prominent in the recorded history of the polytechnics in England and Wales. Pratt observed that "one of the major debates throughout the history of the polytechnics concerned entry to degree courses" (Pratt 1997, p. 82). Thus, the treatment of admission requirements is another possible element of the quality assurance process that was deemed important to include in this study.

A factor that is essential for maintaining the applied orientation of institutions that offer degree programs in career and technical fields is the ability to hire and retain faculty who have relevant professional experience and who can provide mentoring in the development of future practitioners. Many of the programs of applied sector institutions are in emerging areas of technology and occupational practice where there are no postgraduate programs. Over-emphasis on academic qualifications relative to practitioner experience and expertise could impair the quality of career programs and erode the differentiation between the applied and academic sectors. It has been alleged that this has been occurring in Ontario (R.A. Malatest and Associates Ltd. 2010; Crow et al. 2011). While the author has not found

similar expressions of concern elsewhere, because of the centrality of faculty to the delivery of academic programs, it was decided to see how faculty qualifications are treated in the quality assurance standards of other jurisdictions.

The three elements of quality assurance just described pertain to fundamental questions in higher education: what is taught, who is taught, and who teaches? A similarly fundamental question in quality assurance is who is in charge of assessment or accreditation? As the applied sectors are more recent additions to higher education systems and generally of lesser prestige than the traditional university sectors, there may be a question as to the extent of influence of persons who have attachment to or knowledge of the applied sector in the quality assurance process. One way of exploring this question would be to analyze the biographies of members of quality assurance bodies. However, it was not possible to obtain comprehensive information of this type. A more expedient alternative would be to see how wide the practice of having sector-specific quality assurance bodies is in the jurisdictions studied. A limitation of focusing on this aspect of quality assurance is that it would not provide any indication of the influence of the applied sector in agencies that have jurisdiction over both sectors. Still, apparently some educators in applied sectors feel that having a quality assurance agency specifically for that sector would help to ensure that its unique characteristics are recognized. Thus, the question of sector-specific quality assurance agencies was included as one of the factors to be examined in this study.

A limitation of this study is that it concentrated on comparative analysis of quality assurance documents, informed by the literature on the development of applied sectors of higher education and their relationship with academic sectors. The documents that were examined included those that describe the arrangements and processes for quality assurance and the standards used for assessment and accreditation. The research did not include any interviews. The study was intended to provide a foundation that could subsequently be extended by interviews with quality assurance practitioners, including those who conduct reviews of institutions and programs. Collecting data from reviewers could be a valuable complement to document analysis, because reviewers may be able to exert such a great influence on the outcomes of quality assurance processes; for example, reviewers may be in a position to apply common standards differently to the different sectors; or to impose common expectations on the two sectors even where standards differentiate between sectors.

The research consisted of comparative analysis of the textual descriptions of the four dimensions of quality assurance that were the focus of the study. The researcher attempted to identify similarities and differences among different jurisdictions in regard to the descriptions of the treatment of these dimensions. As noted, information was not available for all jurisdictions for all dimensions studied. The numbers of jurisdictions for which information could be obtained in regard to each of the dimensions are summarized in the concluding section. Also, it should be noted that the study covered both institutional and program assessment/accreditation depending upon which approach was used in the various jurisdictions.

Some aspects of quality assurance processes in applied and academic sectors

This study sought to discover the ways, if any, in which the orientation of institutions in the applied sector was recognized in the quality assurance processes. The four elements indicated in the previous section are discussed, beginning with the question of sector-specific agencies.

Sector-specific quality assurance agencies: or not

Having a quality assurance agency with exclusive responsibility for the applied sector is one way of ensuring that the persons who oversee the process have knowledge of the sector. This approach might be particularly appropriate to the extent that quality assurance in higher education is perceived to be a political process (Harvey and Newton 2004; Skolnik 2010). An argument against this practice is that separating the non-university from the university sector for quality assurance purposes might diminish the credibility of the quality assurance process for the non-university sector.

Of the 12 jurisdictions for which information on this factor was obtained, the sector-specific model is clearly in the minority, although it is not clear whether this is because educators in the applied sector are persuaded by the argument against the sector-specific model or they lack the political power to achieve or maintain that model. Until recently, four jurisdictions—Austria, Denmark, Ireland, and New Zealand—had a sector-specific quality assurance agency for degree programs of the applied sector. The only one that remains is in Denmark, the Danish Evaluation Institute (EVA), which is responsible for the professionally oriented degree programs of the university colleges (Danish Evaluation Institute, 2010). A different agency, the accreditation institution (ACE Denmark), is responsible for accrediting university programs.

Until 2012, the *Fachhochschule* Council in Austria had the responsibility for quality assurance for the *Fachhochschulen*, and different agencies had the job of quality assurance in the public and private university sectors. In 2012, responsibility for quality assurance for all higher education institutions was consolidated under a new agency, the Agency for Quality Assurance and Accreditation Austria (AQ Austria). The aim of the law that merged the three former higher education quality assurance agencies into AQ Austria is "to create a cohesive frame of reference contributing to the strengthening of mutual trust and mutual recognition between the three higher education sectors" (AQ Austria 2013, p. 9).

Concern about the credibility of sector-specific quality assurance did not seem to be at issue in the consolidation of responsibility for higher education quality in a single agency in New Zealand or Ireland. In New Zealand, quality assurance for degree programs of the institutes of technology and polytechnics (ITPs) had been delegated by the New Zealand Qualifications Authority (NZQA) to ITP Quality, an agency of the association of institutes of technology and polytechnics (ITPNZ). When differences among member institutions of ITPNZ over policy resulted in the breakup of that organization, it proved impossible to maintain the sector-specific quality agency. Consequently, in 2011 NZQA took back the responsibility for quality assurance for institutes of technology and polytechnics (Doyle 2015).

In Ireland the 2012 merger of sector-specific quality assurance agencies into a single new agency, Quality and Qualifications Ireland (QQI), was a part of the government's broader drive to rationalize the public sector (Ireland Department of Education and Skills 2012). Whether, and if so how far, the consolidated agency should move from the sector-specific process model was a major question posed by a review team that was advising on future directions. The review team cautioned that employing a single review process for all institutions could tend to "reflect poorly the specific issues facing each sub-sector" and result in a standardized approach and "permit little local variation in execution" (Quality and Qualifications Ireland 2014, p. 35). On the other hand, it has been suggested that the previous approach of having sector-specific agencies had been so successful in entrenching institutional diversity in Irish higher education that the existing diversity could survive the

change to a single agency regardless of the approach adopted by the new agency (Rock 2009). It appears that the new agency has moved away from the sector-specific model.

In some jurisdictions that employ the single-agency model, there is a disparity in the nature and extent of external review between the applied and academic sectors. For example, in Australia the bachelor degree programs of both the universities and the TAFEs have to satisfy the same quality standards (Tertiary Education Quality and Standards Agency 2011). However, the programs of the TAFEs must be accredited by the Tertiary Education Quality and Standards Agency (TEQSA), while the universities are self-accrediting and thus their programs are not subject to review by TEQSA.

In Canada, the extension of degree-granting authority to community colleges was one of the major factors that led to a reform of the arrangements for quality assurance in higher education (Weinrib and Jones 2014). While previously, quality assurance for the public universities was largely the responsibility of the universities themselves, both British Columbia and Alberta created provincial quality agencies with jurisdiction over all degree-granting, i.e., public universities, private universities, off-campus programs of out-of-province institutions, and the degree programs of non-university institutions. However, public universities may quality for exemption from normal quality assurance requirements or for expedited quality reviews, but applied sector institutions are subject to the full requirements for initial and periodic external quality assessment.

In Ontario, the university and non-university sectors are under the jurisdiction of different quality agencies, but the division is somewhat unusual. Quality in the public universities is assured by an agency that the universities themselves established and control, while the baccalaureate programs of the applied sector (colleges of applied arts and technology, normally referred to simply as "colleges") are assessed by a government agency, the Postsecondary Education Quality Assessment Board[2] (PEQAB), that is also responsible for private universities (of which there are few) and satellite campuses of out-of-province universities. The colleges have expressed concern that the agency that assesses their degree programs "uses a university degree model that is not designed for career-specific post-secondary programs" (Colleges Ontario 2013, p. 9). The committee that did an external review of the PEQAB reported hearing concerns from the colleges that "existing standards are over-weighted toward the academic culture of research universities, particularly in defining requirements for faculty" (Crow et al. 2011, p. 18). The colleges have their own quality assurance agency which oversees their non-degree programs, and in 2012 they recommended to the government that this agency also assume responsibility for their degree programs (Colleges Ontario 2012). No action has yet been taken by the government on this recommendation.

In summary, of twelve jurisdictions examined, only one, Denmark, still has a separate quality assurance agency for the applied sector.

Expected learning outcomes

It was possible to obtain information on expected learning outcomes of degree programs in ten jurisdictions. Florida was an exception, because qualifications frameworks have not been adopted in the United States (Lumina Foundation 2011). The accreditation association of which Florida institutions are members leaves it to each institution to specify the

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[2] The author served on the governing board of this agency from 2001 to 2005. Observations given here about its span of coverage and its quality standards are derived from examination of its more recent public documents, not from personal recollections of the author's time on the agency's board.

learning outcomes for its programs (Southern Association of Colleges and Schools 2012). Although Austria appears to be in the process of developing a national qualification framework, it was not possible to find a statement of learning outcomes that had been formally adopted. As noted earlier, this was the only area of quality standards for which it was possible to include Finland.

Of the ten jurisdictions, two (Flanders and the Netherlands) had a dual approach with separate statements of learning outcomes for academic and applied sectors; two (Denmark and Finland[3]) had statements of learning outcomes that made substantial reference to both academic and applied learning outcomes; two (Australia and Ireland) had statements that while consisting mostly of outcomes that are typical of academic programs still made explicit reference to the world of practice; and the other four (Alberta, British Columbia, New Zealand, and Ontario) had statements that concentrated on outcomes associated with traditional academic programs.

The statement of learning outcomes for bachelor's programs in Flanders is an example of the dual approach. The accreditation manual for Flanders contains separate statements of expected learning outcomes for the professional programs of the *Hogescholen* and the academic programs that are offered by both the universities and the *Hogescholen* (Accreditation Agency of the Netherlands and Flanders 2005). The outcomes for the professional degree include items not mentioned in the description of the requirements for the academic degree, such as the ability to engage in project-based work, the capacity to work as part of a team, demonstrating a solution-based attitude, and having "specific professional competencies at the level of a newly-qualified professional" (Accreditation Agency of the Netherlands and Flanders 2005, p. 4). In contrast, the outcomes for the academic degree include items that are not in the other statement, such as "a research attitude" and "an understanding of basic academic, discipline-related knowledge inherent to a certain domain of the sciences or the arts" (Accreditation Agency of the Netherlands and Flanders 2005, p. 4).

The bachelor's degree standard in the Qualifications Framework for Danish Higher Education (Danish Ministry of Higher Education and Science 2008) contains substantial references both to qualities related to applied education and qualities related to academic education. For example, graduates "must be able to apply the methodologies and tools of one or more subject areas as well as apply skills related to work within the subject area(s) *or* in the profession" (Danish Ministry of Higher Education and Science 2008, p.1). The statement also contains references to practice, profession, practical issues, and work context.

In contrast, the bachelor's degree standards in four of the jurisdictions make little or no reference to learning outcomes related to practice. For example, the New Zealand degree standard makes reference to such items as critical thinking, analytical rigor, and the research methods of a recognized major subject, but not to profession, practice, or work context (New Zealand Qualifications Authority 2013). While the Canadian Degree Qualifications Framework recognizes four different types of baccalaureate programs, the bachelor's degree standard which applies to both sectors is written from the vantage point of a program that is designed to provide in-depth study in an academic discipline (Council of Ministers of Education Canada 2007).

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[3] The report of the committee that developed Finland's national qualifications framework also included detailed descriptions of the differences between the degrees of the polytechnics and the universities with respect to goals and expected learning outcomes (Finnish Ministry of Education and Culture 2009b, pp. 26–29).

The descriptors for bachelor degrees in the National Framework of Qualifications (NFQ) in Ireland makes less substantial references to work related outcomes than those of Denmark or Finland, but more than those in Canada and New Zealand. For example one of the competences in Ireland's NFQ for the ordinary bachelor degree is to "take significant or supervisory responsibility for the work of others in defined areas of work" (National Qualifications Authority of Ireland 2010, p. 1).

The bachelor degree standards in the Australian Qualifications Framework provide only limited reference to the employment context. However, in the application of knowledge category, there is a reference to "initiative and judgment in planning, problem solving and decision making in professional practice and/or scholarship" (Australian Qualifications Framework Council 2013, p. 48). Perhaps even more significant is the statement in the criteria for this degree that graduates have "broad and coherent knowledge and skills for professional work and/or further learning" (Australian Qualifications Framework Council 2013, p. 47).

Admissions requirements

Minimum requirements for admission to baccalaureate programs in different sectors of postsecondary education may be exogenous to the quality regulation system, or they may be regulated by a quality assurance agency. A common pattern in Europe is for the minimum admission requirements to be established by the relevant Ministry. For example, to be eligible for admission to university in many countries, a student must have completed the designated pre-university program in secondary school, whereas the requirement for admission to a baccalaureate program in the applied sector is completion of a vocational or general program in secondary school. Earlier it was noted that non-university sectors tend to enroll a higher proportion of students from lower socioeconomic groups and from vocational education backgrounds than do traditional university sectors. The openness of different types of postsecondary institutions to different student populations is reflected in their respective admission requirements.

It was possible to obtain information on admission requirements in the documentation for quality assurance agencies in eight of the jurisdictions considered in this study. In seven of the eight jurisdictions, the quality standard for admissions requirements for baccalaureate programs was stated primarily in terms of general principles. Most such standards are stated very concisely. In New Zealand, the standard is that requirements for admission must be "clear, comprehensive and fair" (New Zealand Qualifications Authority 2010, p. 9). In several cases, admission requirements are to be related to learning outcomes. An example is the Netherlands where the admission requirements must be "realistic with a view to the intended learning outcomes" (Accreditation Agency of the Netherlands and Flanders 2011, p. 14). Expressed at somewhat greater length, the standard of the Southern Association of Colleges and Schools in the USA is that admission policies should be defined in relation to the institution's mission and designed "to ensure that students who are admitted to the institution or to a specific program can benefit from the institution's programs" (Southern Association of Colleges and Schools 2012, p. 56).

Besides the agency's statement of general principles, quality assurance agencies in some jurisdictions also acknowledge the right of institutions to set their own specific requirements, for example with respect to minimum grade point average in secondary school. In only one of the eight jurisdictions—Ontario—does the quality assurance agency *itself* specify the minimum grade point average and the number of secondary school courses of particular types that applicants must have completed regardless of which

postsecondary sector they are applying to (Postsecondary Education Quality Assessment Board 2014, p. 18). In the other seven jurisdictions, the quality standards for admission to baccalaureate programs are expressed only in terms of general principles.

Qualifications of teaching staff

The aspect of quality assurance which likely has the greatest scope for making applied sector institutions more like universities is that of establishing standards for the qualifications of teaching staff. Table 1 shows the key statements about faculty qualifications requirements for teaching in baccalaureate programs in the documents of quality assurance agencies of the eight jurisdictions for which such statements could be found. The first thing to note is that in half of these jurisdictions (British Columbia, Flanders, the Netherlands, and New Zealand), the requirements are expressed only in terms of general principles, rather than specifying the proportions of teachers that must possess particular degrees. In the other four jurisdictions (Alberta, Australia, Florida, and Ontario), it is stated explicitly that a master's degree is normally required for teaching in a baccalaureate program. In three of those jurisdictions, there is a minimum requirement for the proportion of teaching done by persons who have a doctoral degree: 25 % in Florida and 50 % in Alberta and Ontario.

However, the Alberta document indicates that the requirements for persons teaching in professional and technical degree programs may be quite different from those for academic degree programs. While a doctoral degree is considered the desirable qualification for teaching in an academic baccalaureate degree program, a master's degree or equivalent with relevant professional experience is the desirable qualification for teachers in professional and technical programs (Campus Alberta Quality Council 2011, p. 82). Thus, only two of the eight jurisdictions have a minimum requirement for the percentage of instructors in professional and technical programs that must have a doctoral degree, and in one of these (Florida) the required percentage is half that of the other (Ontario). One other jurisdiction, Flanders, explicitly provides for differentiation between academically oriented and professionally oriented degree programs in assessing faculty qualifications though not in as much detail as does Alberta.

Concluding comments

Table 2 provides summary information on the numbers of jurisdictions whose quality assurance systems contain explicit provisions for differentiating between applied and academic sectors, or that have explicit provisions that could be expected to exert a homogenizing influence. For example, the table shows that only one jurisdiction, Denmark, has separate agencies for quality assurance for the two sectors. In the other 11 jurisdictions that were examined in relation to this index, a single agency has jurisdiction over both sectors. Whether such a single agency would have a differentiating or homogenizing influence would depend upon how it behaved. For example, if it chose to adopt different standards for the two sectors in particular areas of performance, it could have a differentiating influence. Since a composite agency need not necessarily exert a homogenizing influence, the table shows a figure of zero for the number of jurisdictions for which this factor necessarily has a homogenizing influence. The other columns of Table 2 summarize

Table 1 Statements about faculty qualifications requirements for teaching in baccalaureate programs in documents of quality assurance agencies

ALB	Professional or technical degree programs may differ from other programs in the qualifications needed to ensure high quality
	The minimum qualification for each academic staff member offering instruction shall normally be an acceptable master's degree or equivalent in the discipline in which the staff member is assigned to teach
	The desirable qualification of an academic staff member offering instruction is an acceptable doctoral degree in the discipline in which the staff member is assigned to teach or in a cognate discipline
	Normally, a majority of academic staff members offering instruction in each approved program, expressed on an FTE basis, must hold the desirable qualifications
	For institutions and programs with a technical or applied emphasis, the desirable qualification of an academic staff member offering instruction is at least a master's degree (or equivalent), with the understanding that a background of personal experience in relevant employment is an alternative to the desirable qualification specified above
AUS	Are appropriately qualified in the relevant discipline for their level of teaching (qualified to at least one AQF qualification level higher than the course of study being taught or with equivalent professional experience)
BC	Faculty [have] the appropriate credential to develop and deliver the degree level being offered and program being proposed
FLAN	The staff deployed are sufficiently qualified to ensure that the aims and objectives regarding the content, didactics and organisation of the programme are achieved
	Professional orientation Teaching is principally provided by staff who link the programme to the professional practice or practice of the arts
	Academic orientation Teaching is principally provided by researchers who contribute to the development of the subject/discipline (including research in the arts)
FLOR	Faculty teaching baccalaureate courses: doctorate or master's degree in the teaching discipline or master's degree with a concentration in the teaching discipline
	At least 25 % of the course hours in each major at the baccalaureate level are taught by faculty members holding an appropriate terminal degree, usually the earned doctorate, or the equivalent of the terminal degree
NETH	The staff is qualified for the realisation of the curriculum in terms of content, educational expertise and organisation
	The factual expertise available among the staff ties in with the requirements set for professional or academic higher education programmes
NZ	Collectively, the academic staff involved in the course are adequate in number and appropriately qualified for the outcomes of the course to be met
ONT	All faculty teaching in the professional or main field of study hold an academic credential at least one degree higher than that offered by the program in the field or in a closely related field/discipline
	At least 50 % of the students' experience in the professional or main field of study is in courses taught by a faculty member holding the terminal academic credential in the field or in a closely related field/discipline

In order to conserve space, some non-essential words were deleted from the statements of requirements. For example, in the Alberta statement, "The minimum qualification for each academic staff member (continuing, part-time or contract) offering instruction…" was reduced to "The minimum qualification for each academic staff member offering instruction…" The most specific statements from each jurisdiction pertaining to faculty qualifications requirements were entered in the table. In some cases, the most specific statements were still somewhat general

Sources: Alberta: Campus Alberta Quality Council (2011, pp. 82–83)

Australia: Tertiary Education Quality and Standards Agency (2011, p. 16)

British Columbia: Degree Quality Assessment Board (2008, p. 31)

Flanders: Accreditation Organization of the Netherlands and Flanders (2005, p. 7)

Florida: Southern Association of Colleges and Schools (2006, p. 1), (2012, p. 68)

Netherlands: Accreditation Organization of the Netherlands and Flanders (2011, p. 15)

New Zealand: New Zealand Qualifications Authority (2010, p. 10)

Ontario: Postsecondary Education Quality Assessment Board (2014, pp. 25–26)

Table 2 Numbers of jurisdictions with explicit differentiating or homogenizing provisions of quality assurance with respect to applied and academic higher education sectors

Dimension of quality assurance	Sector organization	Expected learning outcomes	Admission requirements	Faculty qualifications
Total number of jurisdictions	12	10	8	8
Number with differentiating provisions	1	2	0	2
Number with homogenizing provisions	0	4	1	2

the information for three areas of performance in which it was argued earlier that differentiation between sectors could be particularly important.

The table shows that explicit provisions for differentiation in these three areas are infrequent. Two jurisdictions (the Netherlands and Flanders) have different statements of expected learning outcomes for each sector, and two (Alberta and Flanders) have different specifications of standards for faculty qualifications for applied higher education. However, the table shows also that the existence of explicit provisions that have a homogenizing influence is only slightly more frequent than the existence of differentiating provisions. Four jurisdictions (Alberta, British Columbia, New Zealand, and Ontario) use a statement of learning outcomes that is appropriate for traditional university disciplines for both the applied and academic sectors; one (Ontario) imposes the same traditional university admission requirements on both sectors; and two (Florida and Ontario) impose the same numerical requirements for doctoral degrees among faculty on the academic and applied sectors (though the precise requirements differ between those two jurisdictions).

In the other cases, the standards are expressed in terms of general principles or blend language that reflects the context of each sector, such as the statements of expected learning outcomes that include outcomes associated with each sector. In these cases—which constitute the majority in the jurisdictions examined in this study—the application of the quality standards could have either a differentiating or homogenizing influence, depending upon how the standards are applied in practice.

Insofar as there has been a blurring of the boundary between higher education sectors in recent years, as has sometimes been alleged (e.g., Fisher and Rubenson 1998), this is usually attributed to the aspirations of postsecondary institutions: the desire of non-university institutions to enhance their status by adding more and higher degree programs, and the efforts of universities to increase their enrolment and revenue through offering more employment-focused programs. However, as the literature on institutional diversity reminds us, external forces, such as quality assurance systems, may also contribute to a reduction in diversity by assessing the quality of different kinds of institutions or programs by the same yardsticks.

This study sought to shed light on the relationship between quality assurance and one particular type of institutional diversity, the differentiation between applied and academic sectors of higher education. For those who believe that diversity is an important property to maintain, an encouraging finding of this study was the infrequency of explicit quality assurance provisions of a homogenizing nature in the areas of institutional performance that were examined here. However, the comfort that might be drawn from that finding may

be offset by another finding: the infrequency of arrangements and explicit provisions that could be expected to support differentiation. Infrequent though these differentiating provisions are, some of them could serve as useful models for jurisdictions that want to build differentiation between applied and academic sectors into their quality assurance processes. Examples of such possible models are the parallel statements of expected learning outcomes for applied and academic programs in Flanders, and the differentiated requirements for the qualifications of faculty who teach in technical and applied programs in Alberta. Perhaps the most important finding of the study is the extent to which quality standards are expressed in terms of general principles whose application depends upon the conduct of agencies and review teams. Thus, to a great extent, whether quality assurance systems foster differentiation or homogenization will depend largely upon actual day-to-day operations of these systems and on that subject clearly more research is needed.

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