

Learning Outcomes, Quality Assurance and the Improvement of Postsecondary Education: An Annotated Bibliography

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February 28th, 2014*

Introduction and Overview

This bibliography provides a broad set of resources on learning outcomes and indicating their origins, theoretical development and the wider contexts in which they have evolved. It includes both contemporary and historical sources and confirms, not only the recent role of learning outcomes in the reform of postsecondary quality assurance processes but also their early place in an extensive body of research into the improvement of teaching and learning. Sources document the path of learning outcomes from their research roots as a foundational tool in the improvement of pedagogic design to their developing role at the centre of a growing international focus on the quality of university education.

The opening section, **History and context: A brief review of the literature on learning outcomes**, confirms that learning outcomes are not new and includes a range of texts to explain their theoretical foundation, practical application and long-established contribution to course, program and curriculum design. These are augmented by seminal studies from over forty years of research into the measurement of student outcomes and the improvement of university education. Final sources contribute overviews of international quality assurance reform. The European Bologna Process has created wider implications for the latter so a paper is included on the contribution of learning outcomes to the European sector.

The following section introduces **UVic as an early adopter of learning outcomes to articulate the benefits of a university degree** and provides both a wider historical perspective and full update on current activities and initiatives. Most importantly it lists the document in which this Bibliography originates and provides a full and comprehensive background to many of the sources listed here. It also includes the current proposal to update the overall University of Victoria student learning outcomes as well as the original generic document on outcomes from 1999 which still appears in the University Calendar.

Quality assurance and learning outcomes; the Canadian context adds research papers, academic texts, government documents and key government and institute websites, to clarify developments in Canada. These provide good overviews of both national and Provincial approaches to contemporary quality assurance reform as well as resources for comparative international developments. Of particular interest are texts which analyse the implications of learning outcomes for the Canadian higher education sector.

The final section on **Quality assurance agencies, qualifications frameworks and learning outcomes: Australia, Hong Kong, the U.K and U.S.A.** covers a number of international jurisdictions, selected on the basis that their higher education sectors have similar historical and structural roots to Canada's own. Each is at varying stages of quality assurance reform but the issues they seek to address involve social, economic and educational challenges which are broadly similar and each is particularly concerned about the effects of a competitive global world on their own economies. The final entry is for the United States which is particularly vocal about the contribution of higher education to economic goals. It has therefore placed increasing emphasis on the nationwide study and measurement of learning outcomes and provides an interesting comparison for the Australian, British and Canadian sectors. The web resources here, particularly the NILOA website, are an excellent source of up-to-date, learning outcomes research.

BIBLIOGRAPHY

History and context: A brief review of the literature on learning outcomes:

- Adams, S. (2008, February). *Learning outcomes current developments in Europe: Update on the issues and applications of learning outcomes associated with the Bologna Process*. Paper presented at the Bologna Seminar: Learning outcomes based higher education: the Scottish experience, Edinburgh, Scotland. Retrieved January 27, 2014, from http://www.ond.vlaanderen.be/hogeronderwijs/bologna/BolognaSeminars/documents/Edinburgh/Edinburgh_Feb08_Adams.pdf
This is a comprehensive background report on the expanding role of learning outcomes in the Bologna Process, a key element in international quality assurance reform. The paper was delivered at a Scottish government conference to a combined academic and government audience. The conference website is a good source of other informative papers on learning outcomes. <http://www.ond.vlaanderen.be/hogeronderwijs/bologna/BolognaSeminars/Edinburgh2008.htm>
- Astin, A.W. (1993). *What matters in college? Four critical years revisited*. San Francisco, CA: Jossey-Bass. This is a seminal longitudinal U.S. study on the impact on students of a college education. Astin used comprehensive data from some 25,000 student questionnaires completed first in 1985, then four years later, in 1989. Influential findings stressed the value and benefits of good faculty/student interaction and the strength and potential of peer group influence. Further studies below confirm the long history of this category of research.
- Bloom, B. (Ed). (1956) *Taxonomy of educational objectives: The classification of educational goals: Handbook I, cognitive domain*. New York, NY; Longmans, Green & Co.
From a committee of college and university examiners, this book is the original analysis of the cognitive domain. Reading through the book one discovers that Bloom and colleagues categorized cognitive domain learning into many more divisions than the six often cited. Bloom also wrote about the hierarchical nature of the categories, with higher levels of learning building on a foundation of lower levels of learning.
- Bok, D. (2013). *Higher education in America*. Princeton, NJ: Princeton University Press.
Twice President of Harvard, Bok has authored many texts on the university sector and student education, always demonstrating a core concern with quality. His latest contribution involves an ambitious and up-to-date analysis of the contemporary American higher education system addressing many of the current issues and separating hype from reality. Extensive recommendations are made in what functions as a very useful overview.
- Bohlinger, S. (2012). Qualifications frameworks and learning outcomes: Challenges for Europe's lifelong learning area, *Journal of Education and Work*, 25(3), 279-297.
This article provides a review of European experience with learning outcomes and qualifications frameworks. Political, conceptual and procedural issues are discussed.
- Brookes, M., & Becket, N. (2007). Quality management in higher education: a review of international issues and practice. *The International Journal for Quality and Standards*. 1(1), 85-121. Retrieved February 25, 2014, <http://bsieducation.elysiumltd.net/Education/downloads/ijqs/paper3.pdf>.
This paper presents brief but effective summaries of the key political, social-cultural and economic forces driving change in higher education as well as the diverse quality management systems that have emerged as a result. Findings are grouped in tables under three major geographic regions; the Americas, EMEA (Europe, Middle East and Africa) and Asia Pacific and subsequent analysis identifies a

bias towards industry-related models that emphasize efficiency and effectiveness. Recommendations therefore suggest quality management methods move further towards the improvement of teaching and learning, exemplified by a minority of the models in the study .

- Henard, F., & Mitterle, A. (2010). *Governance and quality guidelines in higher education. A review of governance arrangements and quality assurance guidelines*. OECD Higher Education Programme. Retrieved February 25, 2014, from <http://www.oecd.org/edu/imhe/46064461.pdf>
This document is a comprehensive review of university governance across eleven OECD countries, including Canada, the U.S., Australia and the U.K. It specifically addresses the relationship between university governance, government economic and socio-cultural challenges and developing quality assurance mechanisms. Chapter 1 is particularly useful for understanding the growing requirement for quality assurance mechanisms since the Second World War.
- Kennedy, D., Hyland, Aine, & Ryan, N. (2006) Writing and using learning outcomes: A practical guide. In, *Implementing Bologna in your institution*, C 3.4-1, 1-30. Retrieved February 25, 2014, from http://sss.dcu.ie/afi/docs/bologna/writing_and_using_learning_outcomes.pdf
This is an excellent guide to the writing and implementation of learning outcomes for instructional design. Learning outcomes are defined, distinguished from similar terms, explicated with examples and non-examples, and linked to assessment. Some advantages to the use of learning outcomes are described, and potential problems with learning outcomes are discussed. Highly recommended.
- Krathwohl, D. R. (2002). A revision of Bloom's Taxonomy: An overview. *Theory into Practice*, 41(4), 212-218.
This article presents the revision of the original taxonomy of the cognitive domain (Bloom, 1956). The revision makes several important adjustments to the taxonomy. First, the "knowledge" dimension in the revision has four subcategories instead of three, adding "metacognitive knowledge." The major six categories were renamed and reordered in the revision, using verb forms rather than nouns ("remembering" rather than "knowledge"; "understanding" rather than "comprehension"; "applying" rather than "application", "analyzing" rather than "analysis"; and "evaluating" rather than "evaluation". "Synthesis" has become "creating". Creating has moved to the "top" of the domain, above evaluating.
- Krathwohl, D.R., Bloom, B.S., & Masia, B.B. (1964). *Taxonomy of educational objectives: The classification of educational goals. Handbook II: The affective domain*. New York, NY: David McKay.
This book follows upon the first handbook (Bloom, 1956), extending the analysis into the affective domain. The authors are careful to point out that the cognitive and affective domains are not fundamentally different types of behaviour, even though educators often treat them as different.
- Kuh, G.D. (1995). The other curricula: out-of-class experiences associated with student learning and personal development. *Journal of Higher Education*, 66, 123-55.
George Kuh is another key U.S. figure with a major research profile in quality measurement and the improvement of undergraduate education. He currently directs NILOA (National Institute for Learning Outcomes Assessment) and was one of the founders of the National Survey of Student Engagement. In this article from 1995 he explores student outcomes in relation to out-of-class learning and experience.
- Kuh, G. D. (2001). *The National Survey of student engagement: Conceptual framework and overview of psychometric properties*. Bloomington, IN: Indiana University, Center for Postsecondary Research. Retrieved February 25, 2014, from: http://nsse.indiana.edu/2004_annual_report/pdf/2004_Conceptual_Framework.pdf

As a member of the original design team for the National Survey of Student Engagement Survey (1999), Kuh helped establish one of the key instruments of measurement in North American higher education (to which Canadian Universities also contribute). The survey does not assess student outcomes directly but rather indicates where universities are performing well and what aspects of the undergraduate experience could be improved. This paper fully explains the rationale and theory behind the development of NSSE.

- Mager, R. F. (1975). *Preparing instructional objectives* (2nd ed.). Belmont, CA: Pitman Learning. Originally published in 1962, this small book is a gem. It leads the reader through the three essential components of instructional objectives: performance, conditions and criteria. Most of the examples are from the lower levels of the cognitive domain. The book periodically quizzes the reader and allows quicker learners to skip remedial instruction. Mager's 3-component model is most suited to fine-grain learning outcomes used at the course level, or finer.
- Morshead, R.W. (1965). Taxonomy of educational objectives, Handbook II: Affective domain. *Studies in Philosophy and Education*, 4(1), 164-170.
This short article is a review of Krathwohl, Bloom & Masia's book on the affective domain.
- Pace, R. (1984). *Measuring the quality of college student experiences*. Los Angeles, CA: UCLA Center for the Study of Evaluation.
C. R. Pace precedes Kuh as an influential American researcher and psychologist in the field of student outcomes and the quality of undergraduate education. He is an expert in measurement strategies and techniques and an early and important source of data and analyses. Pace conducted several key studies between the mid-70s and the early 90s.
- Pace, R. (1987). *CSEQ: Test manual and norms*. Los Angeles, CA: UCLA Center for the Study of Evaluation. CSEQ is the acronym for the longstanding College Student Experiences Questionnaire which Pace used to collect an extensive range of data for his research. The questionnaire was comprehensive and wide-ranging, addressing categories such as student background (age, race, gender, parental education etc.), duration and quality of student effort, and student perceptions of their environment. Desired college outcomes guided the design of many of the questions based on experts' evaluation of what was most important in post-secondary education.
- Pascarella, E. (1985). College environmental influences on learning and cognitive development: a critical review and synthesis. In Smart, J. (Ed.). *Higher Education: Handbook of Theory and Research*, Vol. 1. New York, NY: Agathon Press.
This document reviews, analyses and synthesises research on how post-secondary contexts affect students' learning. (See 1991 article below.)
- Pascarella, E. & Terenzini, P. (1991). *How college affects students: Findings and insights from twenty years of research*. San Francisco, CA: Jossey-Bass.
This 1991 study presents a landmark review of some 2,600 studies from twenty years of empirical research. It covers the two decades from 1969 when another landmark review by Kenneth Feldman and Theodore Newcomb, *The Impact of College on Students*, was published on the prior forty years. Pascarella and Terenzini's 1991 volume has now been fully updated and Volume 2, *How College Affects Students. A Third Decade of Research*, appeared in 2005.
- Tam, M. (2006). Assessing quality experience and learning outcomes: Part 1: instrument and analysis, *Quality Assurance in Education*, 14(1), 75-87.
This paper describes the methods for the results below (Tam, 2007).

Tam, M. (2007). Assessing quality experience and learning outcomes: Part II: findings and discussion. *Quality Assurance in Education*, 15(1), 61-76.

This presents recent research on the measurement of quality and learning outcomes from Dr. Maureen Tam, then Director of the Teaching and Learning Centre, Lingnan University, Hong Kong. The 2-part paper attempts to answer these four research questions:

- (1) Do students change or develop in various ways during the university years?
- (2) What are their university experiences and how are they related to outcomes, environment, and background characteristics?
- (3) To what extent are student changes or developments attributable to the university experiences and the various sub-environments within a university?
- (4) And finally, what are those institutionally manipulable influences on student change and development that are amenable to systematic intervention through programmatic and policy decision making?

Tinto, V. (1993). *Learning college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago, IL: The University of Chicago Press.

An important and seminal text on student retention. This 1993 publication by Dr. Vince Tinto established a foundational theoretical framework for considering why students leave higher education.

UVic as an early adopter of using learning outcomes to articulate the benefits of a university degree

The greater part of this bibliography originates in the document listed below which includes the current proposal to update UVic Learning Outcomes and provides comprehensive contextual information for many of the references here (Dawson, Mateer, McRae & Parsons, 2014). Both this document and the sources below will confirm that learning outcomes and quality assurance have long contributed to best practice within the University. Sources also provide an overview and update on current and ongoing initiatives. Also listed is the original document from 1999 which is the early version of the university's generic student learning outcomes. See *Generic goals of a university education* below.

Dawson, T. (2013). *A guide to program and curricular planning at UVic*. University of Victoria, Learning and Teaching Centre. Retrieved from <http://www.ltc.uvic.ca/initiatives/index.php>

Written by Teresa Dawson, Director, Learning and Teaching Centre, this booklet provides detailed information on the Academic Unit Curricular Retreat which offers academic units dedicated time for comprehensive program and curricular review. Considerable experience informs the text as it draws on program attendance by over half the University units over a seven year period. As central to the process, learning outcomes are explained and the individual approach of distinct discipline units is emphasized and described.

Dawson, T., Mateer, C., McRae, N. & Parsons, J. (2014, January 14). *Revising and updating UVic's University wide learning outcomes*. (Memorandum). University of Victoria, Senate Committee on Learning and Teaching, Subcommittee on the Learning and Teaching Statement. Retrieved February 27, 2008, from

http://www.ltc.uvic.ca/initiatives/documents/LearningOutcomesMemo_Jan30_2014.pdf

This document includes the current proposal for an updated and revised set of UVic's University wide learning outcomes. It is effectively a consultation document, still current at the end of February 2014, which seeks feedback on the proposed update to the university's 1999 statement, *Generic goals of a University education*. This was the original statement of UVic's overall learning outcomes. If approved,

the revised set of learning outcomes, detailed at the end of the document, will replace it. The memorandum provides a full introduction to this exercise and the web reference for the original generic statement itself, is listed below. The bibliography originates in this document as stated in the Introduction.

Mateer, C. (2013). *Summary of Quality Exercise – August 2013. Goals for increasing the quality of learning and teaching and the learning experience*. University of Victoria. Retrieved February 27, 2014, from

http://www.uvic.ca/vpacademic/assets/docs/budget/QualityExerciseSummary_20131015.pdf

This report summarises the collective consensus of faculty and academic units following the Quality Exercise of fall 2012. The exercise sought direct input on 'strategies, activities or initiatives that will increase the quality of teaching and learning' within individual units and thereby across the University. As such, the exercise and document exemplify an approach to quality assurance that is focused on the enhancement of teaching and learning. This is an emphasis increasingly evident as quality assurance systems undergo reform in many international jurisdictions across the world (see Brookes, M., & Becket and Henard, F., & Mitterle, above).

University of Victoria. (1999). *Generic goals of a university education. UVic Calendar 2013/14*. Retrieved February 27, 2014, from <http://web.uvic.ca/calendar2013/CAL/TUofV/index.html>

Co-op competencies

Competencies' as a term is sometimes used interchangeably with *learning outcomes* and the paper above by Kennedy, Hyland & Ryan (2010, pp 6-7) summarizes the potential confusion surrounding both. However *competencies* is most often used to describe broad and identifiable skills, abilities and knowledge applicable to successful performance in the workplace and, in this sense, it can be distinguished from *learning outcomes* applicable in the context of a course. *Competencies* therefore, are a category of student outcome and when placed in the context of co-operative learning and thereby work-related environments, the term competencies rather than learning outcomes is routinely used. It is therefore 'ten core competencies' and a 'competency framework' that are at the core of an ongoing University initiative (2007 to date), to improve the effectiveness of the Co-operative Education program. See University web links below.

The following references expand on and clarify the wide range of higher education, employment and professional contexts in which competencies are used and provide extensive practical examples for review. A number of texts, such as those from the Conference Board of Canada, introduce the surrounding issues.

Alberta Corporate Human Resources. *2003 Alberta Public Service Competency Model*. Retrieved July 9, 2008, from <http://www.chr.alberta.ca/?file=learning/competencies/apscomp/aps-competencies>

Amulya, Joy (2004). *What is reflective practice?* MIT, Center for Reflective Community Practice. Retrieved February 27, 2014, from <http://www.itslifejimbutnotasweknowit.org.uk/files/whatisreflectivepractice.pdf>

BC Public Service Competency Dictionary. Retrieved February 27, 2014, from http://www.bcpublicservice.ca/down/pdfs/competency_dictionary.pdf

Canadian Council on Learning (2008). *The benefits of experiential learning*. Retrieved February 27, 2014, from <http://www.ccl-cca.ca/pdfs/LessonsInLearning/Feb-21-08-Benefit-of-exper.pdf>

- Conference Board of Canada Employability Skills (2000). Retrieved February, 27, 2014, from <http://www.conferenceboard.ca/education/learning-tools/employability-skills.htm>
- Conference Board of Canada. Centre for Skills and Postsecondary Education. Retrieved February 27, 2014, from <http://www.conferenceboard.ca/spse/default.aspx>
- Evers, Fred & Mitchell, Janet (2005). *Competency-based education in the 21st Century universities*. Ontario, ON: University of Guelph, Educational Research & Development Unit.
- Iowa State University. *Engineering and technology work-based competencies*. Retrieved February 27, 2014, from <http://learn.ae.iastate.edu/competencydefinitions.pdf>.
- Munro, D. (2013). *Skills -Where are we today? Post-secondary education and the state of skills production in Canada*. Conference Board of Canada. Retrieved January 27, 2014, from http://www.conferenceboard.ca/Libraries/EDUC_PUBLIC/spse_nov2013_summitpaper_skills.sflb
- Scottish Quality Assurance Agency (SQAA). Graduates for the 21st century: Integrating the Enhancement Themes. Retrieved February 27, 2014, from <http://www.enhancementthemes.ac.uk/enhancement-themes/completed-enhancement-themes/graduates-for-the-21st-century>
- Service Canada (2008). Canadian Blueprint for Life/Work Balance. Retrieved July 10, 2008, from http://www.jobsetc.ca/blueprint/drilldown.jsp;jsessionid=98F29A54324C1A056FE659104A9A772B.jvm6?category_id=956&root_id=1080&call_id=127
- University of Victoria. Competency Kit. Your core competencies. Co-operative Education Program and Career Services. Retrieved February 27, 2014, from <https://www.uvic.ca/coopandcareer/studentsalumni/resources/competencykit/core.php>
- University of Victoria. Competency Kit. Your program-specific competencies. Co-operative Education Program and Career Services, Retrieved February 16, 2014, from <https://www.uvic.ca/coopandcareer/studentsalumni/resources/competencykit/programspecific.php>
- Valencia Community College. Student Core Competencies and General Education Outcomes. Retrieved February 27, 2014, from <http://valenciacollege.edu/competencies/>
- Virginia Commonwealth University. Core Curriculum. The six competency areas. Retrieved February 27, 2014, from <http://uc.vcu.edu/core-curriculum-bis/core-curriculum/>

Quality assurance, learning outcomes: the Canadian context

- Canadian Council on Learning. (2009). *Up to par. The challenge of demonstrating quality in postsecondary education*. Retrieved February, 27, 2014 from <http://www.ccl-cca.ca/ccl/Reports/PostSecondaryEducation/PSEHome/PSEChallenges.html>
This full and detailed 2009 report can be accessed from the above web page that conveniently condenses its findings. The report was effectively a call for a pan-Canadian framework for quality assurance, over and above provincial arrangements, arguing that this would best protect and censure Canada's higher education international standing. There was little support for the initiative however.

The report provides an excellent overview of quality assurance practice in Canada and summarises a range of issues surrounding it.

Canadian Council of Ministers of Education, Canada (CMEC). (2007) *Ministerial statement on quality assurance of degree education in Canada*. Retrieved February 15, 2014 from <http://www.cicic.ca/docs/cmec/Qa-statement-2007.en.pdf>

This document lays out the national Canadian Degree Qualifications Framework, which acts to guide credit transfer and recognition and supports comparability in postsecondary qualifications across Canada. The Framework outlines expectations for Bachelors, Masters and Doctoral Degrees including admission requirements, expected length of course, broad learning outcomes and principles of program design. The text states that The Framework will provide a foundation for international recognition and comparison of Canadian degree qualifications, but it is relatively succinct at present in comparison with some international frameworks.

Canadian Council of Ministers of Education. Programs and initiatives. Postsecondary education. Quality assurance. Retrieved February 27, 2014, from <http://www.cmec.ca/160/Programs-and-Initiatives/Postsecondary-Education/Quality-Assurance/index.html>

This section of the CMEC website overviews the context and main concerns regarding quality assurance in postsecondary education. A few good links are provided on the opening page including one to the Canadian Information Centre for International Credentials which provides detailed information on each of the Provinces.

Clark, I. D., Trick, D. & Van Loon, R. (2011). *Academic Reform: Policy Options for Improving the Quality and Cost Effectiveness of Undergraduate Education in Ontario*. Montreal, QC, Kingston, ON: Queen's Policy Study Series, McGill-Queen's University Press.

The title of this book indicates a focus on Ontario, but it actually includes a wealth of comparative information on Canadian, Provincial and international approaches to quality assurance and the improvement of undergraduate education. Chapter 3, 'Instruments for improvement' offers considerable comparative detail on quality assurance, qualification frameworks and systems of measurement (addressing both learning outcomes and institutional performance) while Chapter 7, 'Lessons from other higher education systems' has useful overviews of other jurisdictions including Alberta, British Columbia, Nova Scotia, Australia, the U. S., Europe and England.

Degree Quality Assessment Board (DQAB), Ministry of Advanced Education, British Columbia. Retrieved from <http://www.aved.gov.bc.ca/degree-authorization/board/welcome.htm>

The British Columbia Degree Quality Assessment Board has relatively limited responsibility for quality assessment activities in comparison with other higher education quality assurance regimes in Canada (and international jurisdictions listed below). Its principal responsibility is to provide policy advice and recommendations to the Minister for Advanced Education for new degree programs in 'non-exempt-status' institutions. The majority of publicly financed universities in BC are 'exempt-status' which is broadly granted after ten years of successfully delivery of a required level of programs. Once exempt, the designation continues in perpetuity with universities undertaking their own program and institutional quality assessment processes albeit with external input. Trick, Clark and Van Loon (2011, p 204) state it is more common in Canada for institutions to undergo periodic audit of both new programs and their own internal quality assurance processes, by the appointed quality assurance agency.

Germain, Guy & Veithemmer, K. (2008). *Report of the CMEC Quality Assurance Subcommittee. Pan-Canadian quality assurance symposium: Challenges and opportunities in Canadian degree quality assurance*. Quebec, QC: Council of Ministers of Education, Canada. Retrieved January, 27, 2014, from <http://www.cmec.ca/Publications/Lists/Publications/Attachments/190/QA-2008SymposiumReport.en.pdf>

This report followed a key Council of Ministers of Education, Canada (CMEC) symposium in 2008 attended by invited representatives from across Canada. The symposium sought to explore higher education quality assurance as a growing theme and concern. The report is relatively short at nine pages and includes more questions than answers but is an interesting read as participants try to identify what the main issues are likely to be. Student mobility, credit transfer and online learning are evident concerns, but the measurement of learning outcomes and the impact of quality assurance on teaching and learning arise repeatedly throughout.

Hejazi, Bahar. (2010). *Learning outcomes based approach. Challenges facing Canadian quality assurance in a global context*. Toronto, ON: University of Toronto. Canadian Institute for Studies in Education. Retrieved February, 27, 2014 from http://www.academia.edu/1373798/Learning_Outcomes_Based_Approach_Challenges_Facing_Canadian_Quality_Assurance_in_a_Global_Context#

This paper considers the implications of learning outcomes for Canadian higher education should learning outcomes be accorded a central role similar to that in the European Bologna Process. The relationship between learning outcomes and qualifications frameworks in Europe is explained and a key distinction made between quality assurance as *accountability* and quality assurance as *improvement*. Hejazi asserts that learning outcomes will inevitably place greater emphasis on *improvement* and will thereby increasingly drive pedagogic change towards more student-centred, active methods of learning and teaching. As such, this echoes calls elsewhere for quality assurance systems that place more emphasis on learning and teaching and less on the measurement of effectiveness and efficiency.

Ministry of Advanced Education. Quality assurance framework consultations. Retrieved February 16, 2014, from http://www.aved.gov.bc.ca/education_quality_assurance/qaf-consultations.htm

This is the British Columbia, Ministry of Advanced Education website which provides information on ongoing review and proposals for, 'strengthening and streamlining' postsecondary education quality assurance practices and policy, in BC. The recent Green Paper (2013) on proposals for a new quality assurance framework for BC can be accessed from the web page.

Norrie, K & Lennon, M. C. (2013). *Measuring the value of a postsecondary education*.

Montreal, QC, Kingston, ON: Queen's Policy Study Series, McGill-Queen's University Press.

This is an interesting collection of reflective papers on the theme of learning outcomes, educational quality and systems of measurement. The papers were published in book form following a conference of the same name, convened by the Higher Education Quality Council of Ontario in 2011. Papers include 'Assessing and Improving Student Learning and Educational Quality', 'The Value of Learning Outcomes: A Canadian Perspective' and a keynote address titled, 'Education, Learning and Measuring the Right Things.' Contributors are diverse and include key individuals from Canada and other countries.

Quality assurance agencies, qualifications frameworks and learning outcomes - Australia, Hong Kong, the UK and the USA

Australia

Clark, Trick and Van Loon's text (see Canadian Context above) provides a good and brief overview of the Australian sector's ongoing efforts to undertake major quality assurance and higher education reform. They express particular admiration for the sector's approach to learning outcomes measurement and the existence of indicators and incentives that support and encourage the improvement of undergraduate education.

Australian Government. Tertiary Education Quality and Standards Agency. Retrieved from <http://www.teqsa.gov.au/about>

Dr Carol Nicoll, Chief Commissioner and Chief Executive Officer of TEQSA. Retrieved from <http://www.teqsa.gov.au/about/governance>

Australian Government. Tertiary Education Quality and Standards Agency. (2013) *TEQSA Annual Report 2012-13*. Retrieved February, 27, 2014, from <http://www.teqsa.gov.au/news-publications/annual-reports/2013>

Australian Qualifications Framework. Retrieved February, 27, 2014, from <http://www.aqf.edu.au/aqf/in-detail/aqf-levels/>

Shah, M, Nair, C.S., & Wilson, M. (2012). *Quality Assurance in Australian Higher Education: Historical and Future Development*. Retrieved February, 27, 2014, from [http://www.academia.edu/566941/Quality assurance in Australian higher education historical and future development](http://www.academia.edu/566941/Quality_assurance_in_Australian_higher_education_historical_and_future_development)

Hong Kong

Hong Kong Council for Accreditation of Academic and Vocational Qualifications (HKCAAVQ). Retrieved from <http://www.hkcaa.edu.hk/en/about-us/about-hkcaavq>

The Honourable Martin LIAO Cheung-kong, Chairman of Council. <http://www.hkcaa.edu.hk/en/about-us/the-council-membership-list>

The Hong Kong Council for Accreditation of Academic and Vocational Qualifications. (2013). *Annual Report 2012/2013. Refining the QA model. Towards an enabling approach*. Retrieved February 16, 2014, from <http://www.hkcaa.edu.hk/files/publications/annual-reports/AR2012-2013.pdf>

U.K.

The Quality Assurance Agency for Higher Education (QAA). Retrieved from <http://www.qaa.ac.uk/Pages/default.aspx>

Mr. Anthony McClaran, Chief Executive, QAA. Retrieved from <http://www.qaa.ac.uk/AboutUs/corporate/Pages/Directorate.aspx>

Quality Assurance Agency. (2009). *An introduction to QAA*. Retrieved February, 16, 2014, from <http://www.qaa.ac.uk/Publications/InformationAndGuidance/Pages/An-introduction-to-QAA.aspx>

Quality Assurance Agency for Higher Education. (2012). *Enhancement Led Institutional Review. University of Edinburgh. November 2011*. Retrieved February 16, 2014, from

http://www.qaa.ac.uk/InstitutionReports/reports/Documents/RG_851a_Edinburgh.pdf

This report may be of interest as an example of a Scottish Quality Assurance Agency 'Enhancement Led Institutional Review'. Under the U.K. Quality Assurance Agency higher education institutions are reviewed on a relatively regular basis, roughly every four or five years. Edinburgh University was reviewed here in 2011 and its previous review was 2006. The Scottish quality assurance system foregrounds 'enhancement' and the extensive report can be seen to focus on improvement in the quality of teaching and learning.

Quality Assurance Agency. Qualifications frameworks. Retrieved from

<http://www.qaa.ac.uk/AssuringStandardsAndQuality/Qualifications/Pages/default.aspx>

This webpage enables a comparative review of Degree qualifications frameworks applying in England, Ireland, Wales and Scotland, while a number of links listed on the page also provide access to details of the European framework.

Scottish Credit and Qualifications Framework. Levels Descriptors. Retrieved from

<http://www.scqf.org.uk/The%20Framework/Level%20Descriptors>

This document may be of interest as an example of detailed Level Descriptors from the 12 level Scottish qualifications framework. It incorporates school, undergraduate degree, graduate degree and apprenticeship qualifications. The Scottish and Irish quality assurance systems and frameworks are regarded as amongst the most detailed and highly developed in the European Higher Education Area.

U.S.A.

This section addresses issues of quality in American education through the growing national focus on the measurement of student learning outcomes. (Each of the fifty American States has its own diverse arrangements for accreditation and quality assurance).

National government and public concern about the outcomes and quality of postsecondary education is relatively high in the United States in comparison with Canada. This follows a long series of well-publicised studies and reports (Trick, Clark & Van Loon, pp 13-14) which collectively have increased concern over what students actually gain from university and college study (the overarching backdrop to this is also economic). Two of the best known and critical documents are the 2006 Spellings Commission report and the 2011 Arum and Roksa study titled, *Academically adrift: limited learning on college campuses*. Both are referenced below. A key part of the response from government, the States and institutions themselves, has been to increase the focus on institutional performance and the measurement of student learning outcomes. A small selection of national initiatives, institutes and reports is included below all of which address this issue.

Arum, R. & Roksa. (2011) *Academically adrift: limited learning on college campuses*. Chicago, IL: Chicago University Press.

See above for context. The authors applied the widely accepted Collegiate Learning Assessment (CLA) to 2,322 students over a two year period and concluded that 45% demonstrated no significant improvement in critical thinking, problem solving or writing skills. A subsequent study of the entire four year period further confirmed these findings (Arum, Roksa & Cho, 2011).

Kuh, G., Jankowski, N., Ikenberry, S.O. & Kinzie, J. (2014). *Knowing what students know and can do. The*

Current state of student learning outcomes assessment in U.S. universities and colleges. Champaign, IL: National Institute for Learning Outcomes Assessment (NILOA). Retrieved February 25, 2014, from <http://www.learningoutcomeassessment.org/documents/2013%20Abridged%20Survey%20Report%20Final.pdf>

This report uses information NILOA requested from senior university figures on assessment activities and use of the results. A total of 1,202 undergraduate, degree-granting institutions responded. There is considerable information here on types of assessment activity, their relationship to types of institution and recommendations for increasing the effectiveness and use of assessment results. The report makes specific mention of an increase in faculty engagement and provides further interesting analysis and comment. Note that this is the abridged version of the report which itself, is a full update an earlier 2009 study, *'More than you think, less than we need. Learning outcomes assessment in American higher education.* It can also be accessed from the NILOA website.

National Center for Higher Education Management Systems (NCHEMS). Information Centre for Higher Education Policy and Analysis. Retrieved from <http://www.higheredinfo.org/>

Founded by the National Centre for Higher Education Management systems in Colorado, this institute contributes substantially to the nationwide availability of data on all higher education institutions for every U.S. State. As such it permits comparison by all stakeholders on a wide range of indicators including cost, performance and student success.

National Centre for Academic Transformation (NCAT). Retrieved from <http://www.thencat.org/whoweare.html>

Led by Carol Twigg, NCAT was established in 1999 as a non-profit foundation with funding from the Pew Charitable Trust. It is committed to the application of technology in course redesign in order to ensure better learning outcomes for students at a lower cost to the institution.

National Institute for Learning Outcomes Assessment (NILOA). Retrieved from <http://www.learningoutcomeassessment.org/>

Established in 2008, NILOA is funded by both government and charitable institutions (for example, the Lumina Foundation) to *'discover and disseminate ways that academic programs and institutions can productively use assessment data internally to inform and strengthen undergraduate education, and externally to communicate with policy makers, families and other stakeholders'*. The website is an excellent source of research providing extensive access to information on every aspect of learning outcomes measurement, application and use. NILOA is based at the University of Illinois and Indiana University and led by scholars with world class research profiles in the improvement of university and college education. George D. Kuh, referenced in the first section of this bibliography, is Director of NILOA.

U.S. Department of Education. (2006). *A test of leadership-charting the future of U.S. Higher Education: A report of the Commission appointed by the Secretary of Education, Margaret Spellings.* Retrieved February 25, 2014, from <https://www2.ed.gov/about/bdscomm/list/hiedfuture/reports/pre-pub-report.pdf>

A dominant focus in the 2006 Spellings report is the Commission's concern with the high and increasing cost of a university or college education. Performance and accountability are also cited as targets for improvement and the report emphasises the need for better means of measurement and the meaningful reporting of student learning outcomes. The express aim is to ensure student skills will improve over time. The Spellings report contributed directly to the current emphasis on learning outcomes measurement.