

Head note Chapter 1/2? Scholarly approaches to curriculum practice are critical to the success of undergraduate program reform.

THE SCHOLARSHIP OF CURRICULUM PRACTICE AND UNDERGRADUATE PROGRAM REFORM: THEORY-PRACTICE INTEGRATION

Harry Hubball, Neil Gold

ABSTRACT

International higher education reform on a grand scale is having a profound impact on higher education organisations and institutions where there are now mandates and requirements to implement explicit learning outcomes and assessment policies for all undergraduate curricula. Universities, and academic programmes within these institutions, present many unique situational challenges, and are often at different stages of curricular reform when critical change is required. This chapter presents a broad context for curricula change in higher education and points to the urgency for scholarly approaches to and the scholarship of curriculum practice in order to enhance learning-centred curricula.

Introduction: Higher education context and undergraduate curricula

In a global higher education context of increasing competition for student recruitment, inter-institutional student mobility, credit transfer flexibility, and quality assurance policies, learning outcomes have become part of recent international trends in institutional, curricula and pedagogical reform having profound effects on all aspects of curriculum development, implementation and evaluation. Forty-five countries in the European Higher Education Union, for example, have recently signed *The Bologna Agreement*, and its accompanying quality assurance framework which in part requires clearly defined program-level learning outcomes in approximately 4000 European institutions by the year 2010. Expectations of explicit learning outcomes and assessment policies in undergraduate curricula are also integral criteria established by a) the Council of Regional Accrediting Commissions (CRAC) for all seven agencies responsible for State-wide universities and colleges across the USA, b) *Learning and Teaching Performance Funding* awarded to all 38 public universities in Australia, and c) over the last 5-10 years in particular, research universities in Canada have afforded special attention to the quality of undergraduate education and the demonstrable attributes of its graduates (Australian Government, Department of Education, Science and Training, 2006; Bergen Communique, 2005; CRAC, 2003; Gibbons, 2000; OCAV, 2005). More recently at the Provincial level in Canada, guidelines have been established for degree-level expectations in Ontario's 20 publicly assisted universities. Ontario's degree-level expectations originate in the context of a Minister's Post-secondary Review Report of Higher Education which recommended that every university in Ontario should implement the National Survey for Student Engagement (NSSE) in 2006-07 (Rae, 2005). The NSSE has been administered in over 1000 universities and colleges in North America and focuses on student's responses to approximately 90 questions pertaining to five broad areas of student engagement: level of academic challenge, active and collaborative learning, student-faculty interactions, enriching educational experiences, and supportive campus environment. The NSSE is widely recognised as providing reliable and valid indicators about the quality of undergraduate degree programs and lasting academic outcomes (National Survey of Student Engagement. <http://nsse.iub.edu>). However, despite this recent activity with degree-level expectations, learning outcomes, are not a new concept in higher education, and are an integral

part of diverse, as well as contemporary notions of learning-centred undergraduate curricula (Bresciani, 2006; Daniel, 1993; Green, 1999; Mok, 1999).

First, it is useful to provide an operational definition of curriculum in higher education. We refer to curriculum as a *contextually-bound and coherent program of study (e.g., 4-year BSc) that consists of multiple integrated and progressively challenging course learning experiences which are carefully designed to develop student's knowledge, abilities and skills.*

Undergraduate curricula are thus complex and multifaceted processes that are shaped by many factors (social, political, economic, organisational, cultural and individual); are at various stages of development and perhaps reform; and they involve people at several institutional levels (administrators, curriculum development committee members and support team, instructors and students) in the teaching and learning context (Green & Kreuter, 1999; Wiles & Bondi, 2002). Program-level learning outcomes are a central component of learning-centred curricula. Learning outcomes can occur at many different levels (e.g. professional accreditation, quality assessment reviews, institutional planning, program development, individual course design) in the form of both top-down and bottom-up processing, each of which (and various combinations) can have significant implications for implementation practices. Figure 1 illustrates the complex interconnections of learning outcome contexts.

Figure 1. Interconnected Model of Learning Outcomes in Various Undergraduate Program Contexts

Given this complexity and the many consequential complications, not surprisingly, the localised development and declaration of program-level learning outcomes, as well as the careful integration and alignment of these outcomes within the curriculum can be a major undertaking for most institutions and academic units. Developing, implementing and evaluating learning-centred curricula are iterative processes that cannot be treated as discrete entities but rather must be carefully integrated. As a result it is imprudent for each entity to be considered the responsibility of completely different people (Diamond, 1998; Ewell, 1997; Fullan, 2001; Hubball & Burt, 2007; Ottoson & Green, 1987; Green and Kreuter, 1999; Manges et al., 1996; Murphy, 1997).

Traditional approaches to undergraduate programming in higher education, however, are often characterised by well-intentioned, select committee attempts making *ad hoc* decisions about adding, modifying, or “tinkering” with individual course offerings. Such approaches pay little attention to integration and the scholarship of curriculum practice (SoCP); fail to address learning styles and the desirability of divising strategically placed and diverse learning experiences within the curriculum (e.g., Prior Learning Assessment (PLA), capstone projects, field-based learning, interdisciplinarity, interprofessionalism, internationalisation and the use of learning technologies, simulation, role-playing *etc.*), and typically, rely on student's efforts to make sense of the ‘whole’ (if at all) from a broad set of often fragmented and unconnected individual course learning experiences. When attention has been afforded to learning outcomes in these contexts, there are often narrow, rigid and/or surface-level assessment procedures (e.g., simplistic right/wrong quiz questions, isolated behavioural check-lists *etc.*) for measuring student's learning. So, even where applied, learning outcomes have had a somewhat chequered past with very mixed reviews and levels of success or satisfaction in higher education (Baron, 1996; Ganderton, 1996; Gibbs, Dunbar-Goddet, Law & Rust, 2006; Jansen & Christie, 1999).

Learning-centred approaches to undergraduate curricula: Theory-practice integration

Learning-centred reforms in undergraduate programming are part of a larger process of institutional, curricula and pedagogical reform in higher education (Barr and Tag, 1995; Hubball & Burt, 2004; Kupperschmidt and Burns, 1997; Parekh, 2006; Schneider and Schoenberg, 1999). The learning-centred curriculum has its pedagogical roots in constructivism and context-based learning theories and places emphasis on *learning communities, curriculum cohesion and integration, diverse pedagogies, clearly defined learning outcomes, and the scholarship of curriculum practice* (Barab and Duffy, 2000; Ewell, 1997; Gold, 1997; Hansman, 2001; Lave & Wenger, 1991; Wenger, 1998). The underlying assumptions about learning-centred curricula are that: representative students, faculty, and stakeholders in the broader context are active participants in the curricular reform process; that academic units are at different stages of curricular reform and will implement reform of curricula in diverse ways; that learning-centred curricula focus on contextually-bound learning outcomes and integration of diverse pedagogies; and that learning outcomes focus on higher order and integrated abilities about what students are expected to know and be able to do (*e.g.*, demonstrate: critical thinking, responsible use of ethical principles, effective research, communication and problem-solving skills) in the context of a field of study, and are designed to be assessable, transferable, and relevant to students' lives as workers and citizens in a diverse world (Baird, 1996; Brescani, 2006; Clanchy & Ballard, 1995; Cox & Richlin, 2004; Erickson, 2002; Hubball & Poole, 2004; Hubball & Burt, 2004; Kanpol, 1995).

In pragmatic ways, contemporary approaches to learning outcomes inform students what they can expect to achieve from a program of study so they can organise their time and efforts, and prepare for assessment; provide links between and among segments of a curriculum, thus enhancing transferability of learnings; they communicate curriculum/program goals in a meaningful way to a broader community; they help to determine the extent to which learning has been accomplished; and, they guide faculty and administrators (within resource constraints), in part, to determine program(s) of study, course objectives, appropriate learning experiences, assessment and program evaluation strategies (Nicols, 2002). It is important to emphasise that in order to meet the diverse needs and circumstances of undergraduate programme contexts, no singular implementation strategy, nor 'cook-book' approach to curriculum development will suit all academic settings. Developing, implementing and evaluating learning-centred curricula is thus a scholarly process. An institutional commitment to research, therefore, far from being a barrier to improving the quality of undergraduate education, can in fact be brought to bear with the scholarship of curriculum practice (SoCP).

The scholarship of curriculum practice (SoCP)

Interestingly, while the scholarship of teaching and learning (SoTL) movement and literature has gained considerable recognition and momentum in recent years, much less attention has been afforded to the scholarship of curriculum practice (SoCP). At the very heart of SoCP is an approach to higher education programming that integrates curriculum and pedagogical research in the disciplinary context of a field of study. Drawing on the SoTL literature, an important distinction should be made between scholarly approaches to curriculum practice and SoCP.

Scholarly approaches to curriculum practice can engage all faculty in reflecting upon and initiating positive changes to course design and curriculum practices. Essentially, scholarly approaches to curriculum practice are key for understanding student learning; for developing flexible, responsive, cohesive and integrated curricula; and for assessing whether and how curriculum learning experiences are effective at specific stages and in specific circumstances.

Action research methodology is central to scholarly approaches to curriculum practice. Action research internalizes theory and practice through a systematic and cyclical process of inquiry that involves hypothesis testing, planning, observing, analysis, and action (Mills, 2000; Peterat & Smith, 2001; Sander & Halas, 2003). Essentially, action research invites faculty and curriculum leaders to consider what research questions around program development, implementation and evaluation are important, what data to gather, when and how to collect and analyse these data, how to initiate positive changes to practice, how to engage curriculum stakeholders in the process, and, finally, to consider how this research might be of interest to the broader scholarly community. Data collection strategies from the research may be in the form of quantitative (*e.g.*, numeric performance and graduation records, number of learning outcomes and assessment methods, rating and rank-order preference scales), and/or qualitative sources (*e.g.*, internet or documentation searches, course syllabi reviews, open-ended feedback forms and/or interviews, interpretation of teaching performances and learning experiences from video footage, students' assignments, workbook journals, curriculum meeting notes, *etc.*). Qualitative sources, for example, can be analysed by categorizing data using established criteria, major themes, common or isolated experiences (Altrichter, Psch, & Somekh, 1993; Lincoln & Guba, 1985; Strauss & Corbin, 1998). Quantitative data sources, on the other hand, lend themselves to be categorized by descriptive statistics in order to determine frequency counts, means and standard deviations or, if appropriate, by using more complex forms of analytical statistics. Appropriate combinations of qualitative and quantitative data can yield critical information to enhance program development, implementation and evaluation (Bullough & Pinnegar, 2001; Wolfe, Hill & Evers, 2006). Action research, therefore, provides authentic data on which to reflect upon the effectiveness of program processes and outcomes (*e.g.*, examine input from faculty members, practitioners, students, student's work, course instructors' experiences), and to engage key stakeholders in the process of further improving the program (Gold, 1997; Thompson, 1996).

The SoCP takes scholarly approaches to curriculum practice to another level of rigour and engagement by disseminating curriculum research in peer-review contexts. Thus, an operational definition is offered for the SoCP as, *the on-going learning and dissemination of practice-driven curricula research in peer review contexts*. Three key themes are embedded within this definition: on-going learning (*e.g.*, through reflection, workshops, collaborative and self-directed projects, literature reviews), practice-driven curricula (focus on contextually-bound issues of programming, courses, classroom experiences, and student learning) and peer-review (*e.g.*, dissemination of research through curriculum leadership, journal publications, grant writing, and conference presentations). In addition to scholarly approaches to curriculum practice, SoCP has enormous potential for improving student learning since it critically impacts the quality of programming, course structures and pedagogical experiences in which students learn. Furthermore, SoCP makes a broader scholarly contribution to the enhancement of curriculum practices by raising critical questions for investigation, such as: *What is the purpose of a university and how do undergraduate curricula serve this purpose?; What theoretical frameworks can inform curriculum practices?; What are perspectives of learning-centred curriculum practice?; How do perspectives of learning shape curriculum practices?; Who is responsible for undergraduate curricula?; How can academic units progress through stages of curriculum reform?; What is the relationship between the 'state of undergraduate curricula' and student learning experiences?; How do programs reconcile quality and quantity of program-level learning outcomes?; How can learning outcomes be effectively implemented in our programme?; How do we actually know that students are able to demonstrate these outcomes on completion of our degree program?; What relationship exists between program development,*

implementation, and evaluation?; How do programs respond to innovative and diverse programming needs?; What are different ways to judge the quality or effectiveness of an undergraduate program (e.g., learning context, process, impact and long-term follow-up evaluations)?

However, SoCP is not a panacea for quality undergraduate programming since academic units typically face considerable learning context challenges (e.g., existing academic workload stress, traditionally low priority for curriculum leadership, curriculum fatigue, lacking localized expertise in SoCP) for developing, implementing and evaluating learning-centred curricula. Consequently, if SoCP is not adequately supported, confronting critical curriculum questions can present significant challenges for many faculty members and administrators - the magnitude of which may well be an outright deterrent for some academic units undertaking curriculum change (Drummond, Nixon, & Wiltshire, 1998; Kemp & Seagraves, 1995; Green, 1999; Schneider & Shoenberg, 1999; Shavelson & Huang, 2003). Critical examinations of an undergraduate curriculum should not be relegated to 5-year summative data-gathering frenzies for institutional and/or accreditation reviews. Rather undergraduate curricula should be considered scholarly, formative and developmental review processes for all stakeholders in the program learning community. Thus SoCP is viewed as an institutional (e.g., providing adequate incentives, rewards and support structures at the institutional and Faculty-levels such as adequate consideration for SoCP in the tenure and promotion process, curriculum leadership awards, curriculum excellence awards, curriculum innovation awards, institutional programs which focus on the SoCP and curriculum support initiatives), faculty and student-level (e.g., commitment to professional development and quality of undergraduate programming) responsibility.

Summary

Higher education organisations, institutions and academic units globally, are ‘grappling’ with the challenges of redesigning curricula and developing and adopting institutional, professional and program-level learning outcomes. Implementing learning-centred curricula, however, cannot be considered simply as a series of un-problematic and discrete steps. This special edition journal contributes to a growing body of literature and emerging discourse with respect to philosophical orientations, theoretical concepts, principles, research, and practice implications of SoCP to enhance student learning in higher education.

About the authors

Dr. Harry Hubball is an Associate Professor in the Department of Curriculum Studies at the University of British Columbia. His research interests focus on the scholarship of curriculum and pedagogical practice in university contexts. He has provided curriculum consultancy for Institutions, Faculties, Schools, Departments and academic units in diverse university settings. He is the Co-chair of the *UBC Faculty Certificate Program on Teaching and Learning in Higher Education*.

Professor Neil Gold is the VP Academic and Provost at the University of Windsor, Canada. He is a member of the *Ontario Council of Academic Vice-Presidents*.

References

- Albon, S., & Hubball, H.T. Course Design in Pharmaceutical Sciences: A Learning-Centred Approach. *American Journal of Pharmaceutical Education*, 2004, 68(5), 11 pgs.
- Altrichter, H., Psch, P., & Somekh, B. *Teachers investigate their work: An Introduction to the methods of action research*. London, England: Routledge. 1993.
- Angelo, T.A. Transforming departments into productive learning communities. In A.F. Lucas and Associates (Eds.), *Leading academic change: Essential roles for department chairs* (pp. 74-89). San Francisco: Jossey-Bass. 2000.
- Australian Government, Department of Education, Science and Training. *The Bologna Process and Australia: Next Steps*, Government Ministers' Report Publications, April. 2006.
- Baird, L. L. Documenting student outcomes in graduate and professional programs. In A E. Bilder and C.F. Conrad (Eds) *Challenges in assessing outcomes in graduate and professional education*, New Directions For Institutional Research, 1996, 92, 77-87.
- Barab, S.A., and Duffy, T. From practice fields to communities of practice. In D. Jonassen and S.M. Land (eds.). *Theoretical Foundations of Learning Environments*, 25-56. Mahwah, NJ: Erlbaum Associates, 2000.
- Baron, M.A. Dispelling the myths surrounding outcome-based education. *Phi Delta Kappan*, 1996, 77(8), 574-576.
- Barr, R.B., and Tag, J. From teaching to learning: A new paradigm for undergraduate education. *Change*, 1995, 27(6), 13-25.
- Beaudry, M.L., and Schaub, T. The learning-centred syllabus. *The Teaching Professor*, 1998, 12(2), 5.
- Bergen Communique. *The European Higher Education Area: Achieving the Goals*, Communique of the Conference of European Ministers Responsible for Higher Education: The Bologna Process, Bergen, May. 2005.
- Bogdan, R. C., & Biklen, S. K. *Qualitative research for education: An introduction to theory and methods*. Boston, MA: Allyn and Bacon. 1992.
- Bresciani, M.J. *Outcomes-based academic and co-curricular program review*. Sterling, VA: Stylus Publishing, LLC. 2006.
- Bullough, R., & Pinnegar, S. Guidelines for quality in autobiographical forms of self-study research. *Educational Researcher*, 2001, 30(3), 13-21.
- Council of Regional Accrediting Commissions. *Regional accreditation and student learning: Principles of good practice*. Washington DC: CRAC, 2003.
- Clanchy, J. & Ballard, B. Generic skills in the context of higher education. *Higher Education Research and Development*, 1995, 14 (2), 155-166.
- Cox, M., & Richlin, L. (Eds.) *Building faculty learning communities (Eds)*, 97, *New Directions for Teaching and Learning*, San Francisco, CA: Jossey-Bass. 2004.
- Daniel, J. The challenge of mass education. *Studies in Higher Education*, 1993, 18(2), 197-203.
- Diamond, R.M. *Developing and assessing courses and curricula*. San Francisco: Jossey-Bass. 1998.
- Drummond, I., Nixon, I. and Wiltshire, J. Personal transferable skills in higher education: The problems of implementing good practice. *Quality Assurance in Education*, 1998, 6(1), 44-58.
- Erickson, L. *Concept-based Curriculum and Instruction*. Corwin Press, Sage Publications, Thousand Oaks, CA. 2002.
- Ewell, P.J. Identifying indicators of curricular quality. In G.J. Gaff, L.J. Ratcliff and Associates. *Handbook of the Undergraduate Curriculum: A Comprehensive Guide to Purposes, Structures, Practices and Change*. San Francisco: Jossey-Bass. 1997.
- Fullan, M.G. *The New Meaning of Educational Change*. (3rd Edition). N. York: Teachers College, Columbia University. 2001.

- Ganderton, P.S. Concepts of globalisation and their impact upon curriculum policy making: Rhetoric and reality A study of Australasian reform. *International Journal of Educational Development*, 1996, 16(4), 393-405.
- Gibbs, G, Dunbar-Goddet, H, Law, S, and Rust, C. *Characterising features of program-level assessment environments that support learning*. Paper Presented at the International Student Learning Conference, Bath, September, 2006.
- Gold, P. Faculty collaboration for a new curriculum. *Liberal Education*, 1997, 83(1), 46-49.
- Green, A. Education and globalisation in Europe and E.Asia: Convergent and divergent trends. *Journal of Educational Policy*, 1999, 14(1), 55-71.
- Green, L.W., and Kreuter, M. *Health promotion planning: An educational and ecological approach*, Palo Alto, California,: Mayfield Publishing. 1999.
- Hansman, C. A. Context-Based Adult Learning. In Merriam, S.B. (Ed.). *The New Update on Adult Learning Theory*, 2001, 89, San Francisco: Jossey-Bass.
- Hubball, H.T., and Gold, N. Learning-centred Undergraduate Curricula in Programme, Institutional and Provincial Contexts. In XXXXXXXX (Eds.). XXXXXXXX 97, *New Directions for Teaching and Learning*, PPPP-VVV. San Francisco, CA: Jossey-Bass. 2007.
- Hubball, H.T., and Burt, H.D. Learning Outcomes and Program-level Evaluation in a 4-Year Undergraduate Pharmacy Curriculum. *American Journal of Pharmaceutical Education*, In press.
- Hubball, H.T., and Burt, H.D. Scholarship of Teaching and Learning: Theory Practice Integration in Faculty Certificate Programs. *Innovative Higher Education*, 2006, 30(5), 327-344.
- Hubball, H.T., and Poole, G. A learning-centred course on university teaching. *International Journal for Academic Development*. 2004, 8(2). 11-24.
- Hubball, H.T., and Clarke, A. Assessing Faculty Learning Communities. In M.D. Cox and L. Richlin (eds.) *Building Faculty Learning Communities*. New Directions for Teaching and Learning (the "Journal"), 2004, 97, 87-100.
- Hubball, H.T., and Levy, A. Graduate Course Design in Health Care and Epidemiology A Learning-Centred Approach. *Journal for Faculty Development*, 2004, 20 (1).
- Hubball, H.T., and Burt, H.D. An Integrated Approach to Developing and Implementing Learning-Centred Curricula. *International Journal for Academic Development*, 2004, 9(1), 51-65.
- Jansen, J., and Christie, P. (eds). *Changing Curriculum: Studies on Outcomes-based Education in South Africa*. Cape Town: Juta. 1999.
- Kanpol, B. Outcomes-based education and democratic commitment hopes and possibilities. *Educational Policy*, 1995, 9(4), 359-374.
- Kemp I.J. & Seagraves L. Transferable Skills - can higher education deliver? *Studies in Higher Education*, 1995, 20(3), 315 - 328.
- Knight, P.T., and Trowler, P.R. Department level cultures and the improvement of learning and teaching. *Studies in Higher Education*, 2000, 25(1), 69-83.
- Kupperschmidt, B.R., and Burns, P. Curriculum revision isn't just change: It's transition! *Journal of Professional Nursing*, 1997, 13(2), 90-98.
- Lave, J., & Wenger, E. *Situated Learning: Legitimate Peripheral Participation*. New York: Cambridge University, 1991.
- Lincoln, Y.S., & Guba, E.G. *Naturalistic Inquiry*. Beverly Hills, CA: Sage. 1985.
- Lockhart, M., and Borland, K.W. Critical thinking goals, outcomes, and pedagogy in senior capstone courses. *The Journal of Faculty Development*, 2001, 18(1), 19-25.
- Maki, P. *Assessing for student learning: Building a sustainable commitment across the institution*. Sterling, VA: Stylus Publishing, LLC. 2004.
- Middendorf, J.K. Finding key faculty to influence change. *To Improve the Academy*, 1999, 18, 83-93.
- Mills, G. E. *Action Research: A Guide for the Teacher Researcher*. Upper Saddle River, New Jersey: Merrill Prentice Hall. 2000.

- Mok, K.H. Education and the market place in Hong Kong and mainland China. *Higher Education*, 1999, 37: 133-158
- Murphy, S.E. Eight components of program implementation. *Performance Improvement*, 1997, 36(1), 6-8.
- National Survey of Student Engagement. <http://nsse.iub.edu>
- Nichols, J.O. *A practitioner's handbook for institutional effectiveness and student outcomes assessment implementation* (3rd ed.). New York: Agathon Press. 2002.
- OCAV Report. *Working Group on University Undergraduate Degree Level Expectations*. Ontario Council of Academic Vice-Presidents, October 24, 2005. http://72.14.253.104/search?q=cache:gsQ9IKN9NDMJ:www.uwo.ca/univsec/handbook/general/OCAV_Guidelines_2005.pdf+Ontario+Council+of+Academic+Vice-Presidents&hl=en&gl=ca&ct=clnk&cd=3
- Ottoson, J. M., and Green, L.W. Reconciling concept and context: Theory of implementation. *Advances in Health Education and Promotion*, 1987, 2, 353-382.
- Parekh, B. Fighting the War on Dogma, *Canadian Association of University Teachers Bulletin*, 54, 1, January 2007.
- Peterat, L., & Smith, M.G. In-forming practice through classroom inquiry. In L. Peterat & M.G. Smith (Eds.), *In-forming practice through action research, Yearbook 21* (pp. 2-29). Peoria, IL: American Association for Family and Consumer Sciences and Glencoe/McGraw-Hill. 2001.
- Rae, R. *The Ontario Post-secondary Review*. 2005. <http://www.gov.on.ca>
- Richlin, L., & Cox, M. Developing scholarly teaching and the scholarship of teaching and learning through faculty learning communities. In M. Cox and L. Richlin (Eds.), *Building faculty learning communities 97, New Directions for Teaching and Learning*, 127-136. San Francisco, CA: Jossey-Bass. 2004.
- Sander, N., & Halas, J. Action research as responsible practice: Parental responses to assessment, evaluation, and reporting practices in physical education. *Physical and Health Education Journal*, 2003, Summer, 12-17.
- Schneider, C.G., and Shoenberg, R. Habits hard to break: How persistent features of campus life frustrate curricular reform. *Change*, 1999, March/April, 30-35.
- Shavelson, R., and Huang, L. Responding responsibly to the frenzy to assess learning in higher education. *Change*, 2003, January/February 11-18.
- Stark, J.S., Lowther, M.A., Sharp, S., and Arnold, G.L. Program-level curriculum planning: An exploration of faculty perspectives on two different campuses. *Research in Higher Education*, 1997, 38(1), 99-130.
- Strauss A. & Corbin, J. *Basics of qualitative research: Techniques and procedures for developing grounded theory* (2nd edition). Thousand Oaks, CA: Sage. 1998.
- Thompson, S. How action research can put teachers and parents on the same team. *Educational Horizons*, 1996, 74(2), 70-76.
- Wenger, E., McDermott, R., and Snyder, W. *Cultivating Communities of Practice*. Boston, MA: Harvard University Press. 2002.
- Wiles, J., and Bondi, J. (6th Ed.) *Curriculum Development: A Guide to Practice*. Merrill Prentice Hall. Upper Saddle River: OH. 2002.
- Wolfe, P., Hill, A., & Evers, F. *A Handbook for Curriculum Assessment*. University of Guelph Publications, Ontario. 2006.

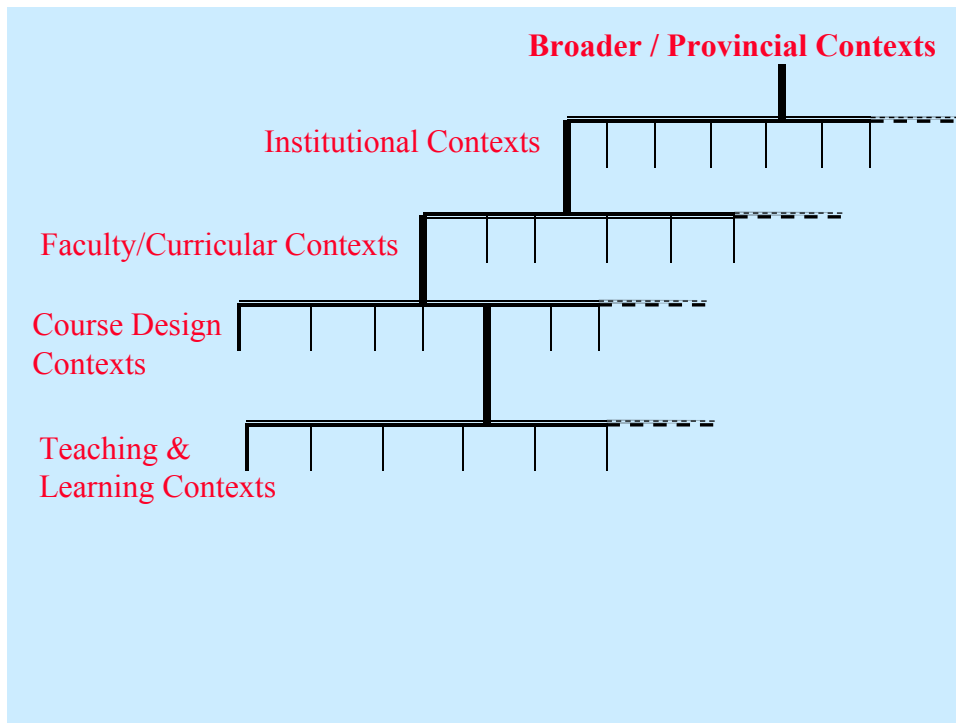


Figure 1. Interconnected Model of Learning Outcomes in Various Undergraduate Program Contexts