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This chapter provides an overview of externally generated program-level learning outcomes and an integrated and stage-specific framework for redeveloping learning-centered curricula in higher education contexts.

Supporting the Implementation of Externally Generated Learning Outcomes and Learning-Centered Curriculum Development: An Integrated Framework

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Higher education reform on an international scale is having a profound impact on organizations and institutions where there are now mandates and requirements to implement explicit learning outcomes and assessment policies for all undergraduate curricula (Bergen Communique, 2005; Bresciani, 2006; Hubball and Burt, 2004; Hubball and Gold, 2007; OCAV Report, 2005). Internationally, program-level outcomes are not only linked to government funding but are also used to facilitate credit transfers, admission to graduate programs, and accreditation of professional programs. In Canada education is a joint jurisdiction between provincial and federal governments, with the latter being primarily responsible for funding research in higher education. In the absence of a national accreditation process for university programs, quality assurance measures—particularly those centered around program-level learning outcomes—vary considerably from one province to the next.

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As previously argued (in Chapter One), program-level learning outcomes are a central component of learning-centered curricula. Once established (whether provincially, institutionally, or programmatically), they require careful integration and alignment to be effectively implemented. Localized development can be a major undertaking for most institutions and academic units. Addressing critical issues such as “how can learning outcomes be effectively implemented in our program?” and “how do we actually know that students are able to demonstrate these outcomes on completion of our degree program?” present significant challenges for many faculty members and administrators—the magnitude of which may well be an outright deterrent for some considering such a venture (Drummond, Nixon, and Wiltshire, 1998; Shavelson and Huang, 2003; Schneider and Shoenberg, 1999).

This chapter provides an overview of one Canadian provincially initiated curriculum reform effort in which several generic learning outcomes were established. It also presents a flexible, practical, and integrated framework for the development, implementation, and evaluation of program-level learning outcomes in undergraduate curricula contexts. When learning outcomes are externally mandated (or strongly encouraged), it is important that institutions have effective road maps for their implementation. Guiding principles and comprehensive strategies are provided here from critical lessons learned from the experience.

Provincial-Level Learning Outcomes: Building Capacity

In the summer of 2004, the government of Ontario established a commission to review the state of higher education. The commission’s report emphasized the need to make explicit processes for ensuring quality and recommended that every university in Ontario should implement the National Survey for Student Engagement (see <http://nsse.iub.edu>; Rae, 2005). Later that year the Council of Ontario Universities (COU)—the organization of executive heads of Ontario’s publicly assisted universities—proactively established its own task force made up of members of one of its subgroups, the Ontario Council of Academic Vice-Presidents (OCAV), to develop “Guidelines for University Undergraduate Degree Level Expectations” (UDLEs) to serve as a framework for describing expectations of attributes and performance by graduates of universities in Ontario (OCAV, 2005). The UDLEs consist of the following six generic categories of intellectual and creative development of graduates:

- Depth of knowledge
- Knowledge of methodologies
- Application of knowledge
- Communication skills
- Awareness of limits of knowledge
- Autonomy and professional capacity

The guidelines provide a short description of the minimum levels of performance that graduates of both honors and general degrees are expected to demonstrate for each attribute. Quality assurance measures in higher education are, however, not new to Ontario. In 1996, the COU established guidelines for the conduct of periodic quality reviews of undergraduate programs and committed to a system of regular audits of the Ontario universities' policies and procedures for these reviews. The body responsible for performing the audits is OCAV, operating through its Undergraduate Program Review Audit Committee (UPRAC). UPRAC audits provide institutions with valuable and objective advice on how they might take steps to improve their processes, but at the same time the audit process preserves the principles of university self-regulation and autonomy. The process includes three key components: self-study, peer review, and a judgment by the auditors about the quality of new and existing programs (OCAV, 2006). In 2005, the COU endorsed OCAV's "Guidelines for University Undergraduate Degree Level Expectations" (UDLEs), and universities agreed to use these guidelines in explicitly articulating their own undergraduate degree-level expectations based on their unique institutional values and goals and to develop policies for incorporating them into their program review processes by June 2008.

Implementing the initiative. In November 2005 OCAV invited academic leaders, including vice presidents, deans, chairs, members of standards committees, educational developers, and others engaged in program and curriculum development to participate in a full-day workshop to discuss the UDLEs and explore their implications for enhancing curricula. Following that workshop, OCAV and educational developers established a Joint Working Group on Teaching and Learning to identify strategic approaches, including regional workshops, for assisting universities in incorporating the UDLEs framework into their curricula. The workshops focused on building capacity for institutional curricula reform centered on student learning outcomes and objectives. Specifically the workshops enabled participants to identify, discuss, and align institutional graduate attributes with the provincial UDLEs. Furthermore, various curriculum development, implementation, and evaluation models were examined in which participants were required to develop action plan priorities (such as what, why, who, when, and how) for their respective institutions.

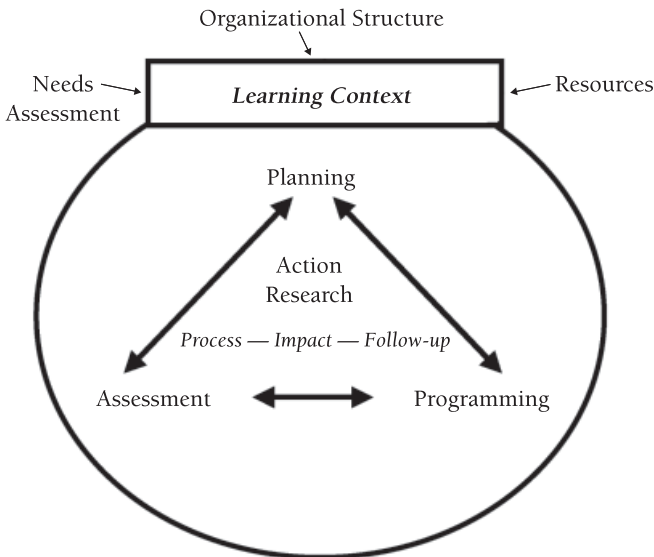
Coordinating the initiative. The OCAV Joint Working Group on Teaching and Learning is currently gathering data to monitor and guide institutional progress towards implementing UDLEs. A newly formed network of curriculum leaders serves as valuable support to provide workshops, resources, scholarly activities, and best-practice examples of integrating UDLEs into undergraduate degree programs. In particular, this initiative has provided an opportunity for a new coalition between educational developers and academic leaders to enhance the quality of teaching and learning in Ontario's higher education system.

An Integrated Framework for Developing, Implementing, and Evaluating Learning-Centered Curricula

Developing, implementing, and evaluating learning-centered curricula are complex, multifaceted, and iterative processes that cannot be treated as discrete and linear entities to suit all academic settings, but rather must be carefully integrated to meet the diverse needs and circumstances of undergraduate program contexts (Fullan, 2001; Green and Kreuter, 1999; Kotter, 1996). The following framework has been applied successfully in a variety of settings (Hubball and Burt, 2004; Albon and Hubball, 2004; Hubball and Burt, 2006; Hubball and Poole, 2004). It takes context into account and integrates comprehensive strategies for learning-centered curricula. Essentially this framework provides (1) a benchmark for an analysis of needs to determine the current status of curriculum within an academic unit, (2) guidelines for direction and progression in the curriculum redesign process, and (3) strategies for implementation and the scholarship of curriculum practice (SoCP).

Action research methodology is central to this integrated framework and SoCP (see Figure 9.1). Action research methodology invites curriculum leaders to consider which research questions are important and provides authentic data to reflect on and to initiate changes to the effectiveness of

Figure 9.1. Implications of an Integrated Framework for Developing, Implementing, and Evaluating Learning-Centered Curricula



Source: Hubball and Burt, 2004.

program processes and outcomes (Bullough and Pinnegar, 2001; Gold, 1997; Thompson, 1996; Wolf, Hill and Evers, 2006).

Program Development and Implementation

Learning context strategies. This critical component of learning-centered curricula refers to key implementation initiatives, such as critical motivational factors for curriculum change, learning outcomes education, adequate support, leadership qualities, teamwork, representative input, responsiveness, incentives, sources of reward, and stage-specific curriculum support strategies. These initiatives empower the learning community, collectively and individually, to engage in the ongoing process of implementing progressive learning-centered curricula (Barab and Duffy, 2000; Cox and Richlin, 2004; Gold, 1997; Knight and Trowler, 2000). For example, in addition to understanding the unique context of a university and those situational factors in which academic units operate, it is important to recognize a unit's current readiness, stage, and progression with curricular reform.

Planning strategies. These refer to the development of global (overall curriculum) and specific (program-specialization) learning outcomes—such as acquisition, application, and integration of knowledge; research skills, including the ability to define problems and access, retrieve, and evaluate information; critical thinking and problem solving; proficient literacy and numeracy skills; responsible use of ethical principles; effective leadership, communication, and interpersonal skills. Learning outcomes, in part, drive the curricula, teaching, and learning process (Baird, 1996; Lockhart and Borland, 2001).

Assessment strategies. These refer to the development of a range of methods (such as capstone projects, portfolios, student presentations, and exams) and procedures used to assess and evaluate student learning and curriculum effectiveness—in terms of processes, impact, and outcomes (Brown, Bull, and Pendlebury, 1997; Green and Kreuter, 1999; Shavelson and Huang, 2003).

Programming strategies. These strategies inform the development and integration (both vertical and horizontal) of diverse learning experiences. They include interdisciplinary or core learning modules, intraprogram specialization modules, and individual course work modules—from learning technologies, problem-based learning, and lectures to independent study and field experiences—in which students can acquire, integrate, and apply knowledge in diverse settings (Poindexter, 2003).

Program Evaluation

The following program evaluation framework provides a broad and long perspective through which to investigate learning context, process, impact, and follow-up program evaluations (Fullan, 2001; Green and Kreuter, 1999; Kreber and Brook, 2001; Mills, 2000; Owen, Fletcher, and Richards, 2001; Priest, 2001).

Learning context evaluations. These evaluations address key issues such as the intended audience for the evaluation, the objectives of the evaluation, and available resources to conduct specified evaluation projects. For example, learning context evaluations might include comprehensive data-gathering strategies for various stakeholder groups, researching relevant literature sources pertaining to learning outcomes in higher education, assessing perceived needs about program processes and outcomes, assessing critical factors in the development of localized learning outcomes, evaluating program feasibility issues, examining program cost-benefit issues, or investigating issues around learning outcomes and student recruitment. What needs to be improved and why and how?

Process evaluations. These focus on periodic assessments of issues of importance that arise throughout the program (formative evaluations). For example, to what extent are learning outcomes made explicitly clear to students? How do students best achieve learning outcomes? To what extent do learning experiences integrate learning outcomes? To what extent are learning outcomes reflected in course syllabi and program-level documentations? What are the strengths and weaknesses of program learning experiences? To what extent are learning context, planning, assessment, and programming strategies integrated with learning outcomes at key stages of a four-year program? What needs to be improved and why and how?

Impact evaluations. These focus on issues of importance that occur as a result of a program (or summative) evaluation. For example, what sorts of learning outcomes actually occurred as a result of this program? How do students demonstrate learning outcomes? To what extent does the program meet, surpass, or fall short of the identified learning outcomes, and why and how? What needs to be improved in terms of learning outcomes and program implementation? What needs to be improved and why and how?

Follow-up evaluations. These focus on issues of importance arising from the longer-term impact of a program (several months or a year later). For example, as a student reflects on the program and learning outcomes, what does he or she remember and value most? Generally speaking, to whom and to what extent, if at all, did the learning outcomes make any difference? If at all, how did the program contribute to the student's development? If at all, can specific examples be provided about applications of learning outcomes to other academic activities? What were alternative or unintended outcomes from this program?

The framework shown in Figure 9.1 therefore takes into account context and integrates comprehensive strategies for the development, implementation, and evaluation of learning-centered curricula. Academic units, however, face considerable learning context challenges (such as existing academic workload stress, a tradition of low priority for curriculum leadership and contributions in tenure and promotion processes, curriculum fatigue, and lack of localized expertise in the scholarship of curriculum practice) for developing, implementing, and evaluating learning-centered curricula. Thus,

considering curriculum revision as a staged process of transition that requires a period of significant and incremental adaptation rather than radical and abrupt change helps to alleviate faculty anxiety or resistance (Hubball and Burt, 2004; Kupperschmidt and Burns, 1997). Typically academic units progress through cyclical and iterative stages of learning-centered curriculum reform: for example, a pre-awareness stage (curriculum reform is neither on the agenda nor a priority at all at this point); an awareness stage (awareness of groundswell of curricular reform in alternative settings, though no real energy or resources committed to curriculum change); an initiative stage (interest in and commitment to curriculum reform, initiate chair and key personnel to spearhead process); a mobilization stage (mobilize and empower learning community for curriculum reform, establish curriculum committee and subcommittee working groups for strategic planning); an action plan stage (buy-in readiness and integration of responsive outcomes, assessment strategies, and learning modules developed); and a practice stage (ongoing systematic analysis, refinement, further development, and dissemination).

Stage-Specific Support Strategies for Implementing Learning-Centered Curricula

Various strategies from the integrated framework discussed earlier have been useful in assisting academic units to progress through the stages of learning-centered curriculum reform. Generally learning context strategies are more important for developing a learning community and creating a critical mass to address issues of learning-centered curricula during the awareness, initiative, and mobilization stages, whereas emphases on program development and evaluation strategies tend to be more relevant during the overlapping mobilization, action plan, and practice stages of curriculum reform. The following stage-specific curriculum support strategies have been particularly useful for assisting academic units to progress through each of the iterative and cyclical stages of learning-centered curricula reform.

From Pre-awareness Stage to Awareness Stage. In the early stages it is useful to encourage all stakeholders in the learning community to identify internal and external motivation (contextual) factors for curriculum reform (via surveys, discussion forums, and meetings, for example) and to expose the learning community to a wide range of resources, guest speakers, and current literature pertaining to learning-centered curricula and best practices. These may include accreditation issues or government-mandated educational reforms.

From Awareness Stage to Initiative Stage. It is useful to build on the above strategies with a view to identifying an appropriate and potential curriculum leader or chairperson who could mobilize stakeholders through open dialogue and various communications and spearhead the redesign and implementation of a learning-centered curriculum. To ensure that the curriculum

redesign process is grounded in pedagogical research and best practices for program development, implementation, and evaluation in higher education, the curriculum chair might seek the assistance of an external consultant with appropriate expertise in the scholarship of curriculum practice.

From Initiative Stage to Mobilization Stage. Typically university faculties and academic units embrace several subdisciplines, each with its own distinct subculture and perspective of the main discipline. Thus, from initiative to mobilization stages, it is useful to build on the above strategies and to engage and mobilize a critical mass, collectively and through disciplinary streams, in open dialogue and needs analysis pertaining to the curriculum reform process. This approach is particularly effective through town hall meetings (namely, discussion forums about curriculum issues for faculty, administrators, students, and professionals in the field), notice board information about ongoing issues and progress with curriculum reform process, individual and focus group interviews with faculty members, e-mail surveys and consultation with student and professional groups, and faculty development workshops on issues related to learning-centered curricula. These are excellent networking opportunities for identifying and recruiting potential curriculum team leaders who could mobilize personnel in subdisciplinary specializations.

From Mobilization Stage to Action Plan Stage. To ensure a well-designed and cohesive program among various subdisciplines requires an overall shared vision and model of curriculum with specific attention to learning outcomes and vertical and horizontal curriculum integration. Vertical integration refers to course work that progressively builds on previous course work with each subsequent year of the program (from the first to the fourth year), whereas horizontal integration refers to interrelated courses as a student progresses through each specific year of a program (Albon and Hubball, 2004; Beaudry and Schaub, 1998; Hubball and Burt, forthcoming; Lockhart and Borland, 2001; Raman-Wilms, 2001). Vertical integration can be addressed by organizing faculty members into specific groupings to identify and disseminate examples of innovative course design and best teaching practices within subspecializations. In addition, subdisciplinary specializations should be challenged to develop flexible, progressively challenging, and responsive course work (throughout years one to four of the program) in order to align and integrate learning outcomes with learning experiences and assessment strategies (Purkerson Hammer and Paulsen, 2001). Horizontal curriculum integration is best developed initially by the chair and curriculum team leaders in order to ensure that specifically designed courses (such as specific case-based, problem-based, project-based portfolio development and field placement learning modules courses) provide unique opportunities for students to apply and integrate learning outcomes and course work experiences from the individual disciplinary streams to the solving of progressively challenging multidisciplinary cases and problems throughout each year of the curriculum. It is important to emphasize that learning-centered curricula should not be overloaded, horizontally or vertically, with rigid

course modules. Rather, undergraduate programs require adequate flexibility to be able to respond to and provide cutting-edge learning experiences that originate from local and societal issues.

From Action Plan Stage to Practice Stage. In order to progress from the action plan stage to practice stage, academic units need to attend to all previous stage-specific strategies, as well as identify and disseminate best practices (such as innovative and integrated course work experiences) across the whole curriculum. Furthermore, a program evaluation team should be mobilized in preparation to address relevant research questions, gather appropriate data, and disseminate progress, critical challenges, and plans for ongoing refinements and investigations within the whole curriculum and subspecializations. External assistance may be useful for action research methodologies and the scholarship of curriculum practice.

Exhibit 9.1 indicates critical lessons learned by the authors in their various experiences in implementing curricular reform.

Exhibit 9.1. Critical Lessons Learned

- Accreditation was the single biggest factor to influence the development, implementation, and evaluation of learning-centered curricula.
- Strong and adequately supported curriculum leadership is required, with the ability to engage the *whole* learning community (including a critical mass within the sub-disciplines) through open dialogue and other varied communications such as town hall meetings, faculty retreats, faculty meetings, notice boards, and web site displays.
- Learning outcomes that are predetermined and imposed from the top down typically meet greater resistance than localized "bottom-up" versions, which often produce similar and easily aligned outcomes.
- Guest speakers and external consultants with expertise in the scholarship of curriculum practice in higher education can provide broader perspectives and best-practice examples to assist the context-specific development, implementation, and evaluation of learning-centered curricula.
- Development, implementation, and evaluation of learning-centered curricula is a complex labor-intensive and relational process (much like effective teaching, but on a much broader scale), therefore realistic time frames and adequate curriculum and faculty development support structures should be established in order for academic units to progress successfully through the cyclical and iterative stage-specific processes of learning-centered curricula reform. (For example, the eight-month Faculty Certificate Program began in 1998 at the University of British Columbia and has enabled individuals and groups of faculty members, through various assignments, workshops, and one-to-one tutorials, to focus on leadership issues pertaining to the scholarship of curriculum and pedagogical practice.)
- The considerable time and effort required, individually and collectively, to successfully develop, implement, and evaluate learning-centered curricula require equal consideration for the varied contributions from faculty members within academic units in the realms of workload expectations, provisions for curriculum grant funding and award structures, and credit toward tenure and promotion processes.
- Provide additional support for select groups with early potential who are likely to offer case examples and to champion innovation, leadership, and integration of learning-centered curricula.
- Development, implementation, and evaluation of learning-centered curricula is an individual and social contextual process.

Institutional Application

Following its establishment of the list of the University of Windsor graduate characteristics and alignment of these with provincially mandated degree-level expectations, the university undertook a comprehensive institution-wide curriculum reform effort. In order to honor the diverse needs and circumstances of students, faculty, and the wider setting of university operations, an institutional visioning process sought to engage the campus community through open dialogue and various interactive forums to collectively define, develop, and implement notions of a learning-centered campus (University of Windsor Senate, 2006). Integral to the institutional visioning process, all academic units on campus were challenged to reexamine their curricula and pedagogical practices in the context of program-level learning outcomes, the University of Windsor graduate characteristics, and the provincial UDLEs.

Part of the community engagement process was to invite visiting scholars with various perspectives and research and practical expertise in issues of curriculum development and pedagogy in higher education. For example, a curriculum consultant was invited to spend an intensive three-day workshop and consultation series with deans, heads, senate, curricula leaders, academic units, and individual faculty members. The consultant's role was not to tell curricular committees how to redesign their curricula but rather to understand the various learning contexts and to engage faculty with flexible frameworks and strategic approaches for developing, implementing, and evaluating learning-centered curricula. Typically this involved a series of introductory program-specific workshops and consultations that focused on the context for learning-centered curriculum reform in higher education (local and global initiatives), identifying shared program-level values and student learning-outcomes, developing cutting-edge and progressive learning experiences for students at strategic phases of the specified undergraduate program, and critical ways of judging the quality and effectiveness of the specified undergraduate program.

Three specific faculties on campus were targeted for special attention and additional workshop and consultancy support over a one-year period in order to role-model and champion best practices at the institutional level. Context-specific issues emerged as these units progressed through various key stages of curriculum reform. Examples of more advanced workshops in these program-specific contexts focused on faculty learning communities' implications for program reform and curriculum leadership, program-level learning outcomes' implications for assessment and course design, program-level learning outcomes' implications for diverse teaching and learning strategies, and program-level evaluation (action research and the scholarship of curriculum practice). Ongoing monitoring and specific consultations with each of these curriculum chairs tended to reinforce and connect context-specific change processes with scholarly approaches to curriculum practice. Finally, as part of a comprehensive institutional curriculum sup-

port initiative, five curriculum leaders from various faculties on campus were funded to develop further expertise in university curriculum and pedagogy by attending the eight-month Faculty Certificate Program on Teaching and Learning in Higher Education at the University of British Columbia.

Conclusion

Universities and academic units are increasingly being encouraged to develop, adopt, and implement program-level learning outcomes within undergraduate curricula. Learning-centered curricula take time, collective energy, and resources to fully implement. The extent to which the learning community (the campus) is empowered will have a significant effect on progress made through the various stages of implementing learning-centered curricula. Also significant is the commitment of adequate resources (such as necessary levels of support for committee chairs and curriculum leaders) and the power to influence people required during this process (such as appropriate leadership qualities, commitment, incentives, and ability of curricular leaders to mobilize faculty and students). Furthermore, despite well-coordinated, innovative, and strategic attempts to implement learning-centered curricula, it is unlikely to fully occur as intended due to the highly complex world of curriculum practice. It is not surprising, therefore, that inherent complexities in implementing learning-centered curricula can present significant pedagogical as well as implementation challenges for institutions and academic units in higher education. By implication, these challenges also extend to individual faculty who are required to reexamine their course design, assessment, and learning strategies in order to meet the objectives of a learning-centered curriculum.

This chapter provides a useful integrated and stage-specific framework for implementing learning outcomes in various higher education contexts, as well as highlighting critical contributions for the scholarship of curriculum practice toward enhancing student learning. This framework takes context into account and integrates comprehensive strategies to assist academic units with redesigning and implementing learning-centered curricula.

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