Responding to Outcome-Based Curriculum Development

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Abstract:

    Educational development is increasingly shaped by trends towards outcome-based accreditation requirements for professional programs across the disciplinary spectrum including nursing, engineering, social work, and pharmacy with a resulting learning curve of new terminology, concepts, and procedures for writing, mapping, and measuring student learning outcomes. In response, educational developers have begun to provide customized offerings and process coaching with just-in-time support. Across four case studies at three Canadian institutions, the presented set of curricula and models illustrate the role and approaches of educational developers in supporting the learning curve and building faculty relations in outcome-based accreditation.

Key Words:

educational development; curriculum; accreditation; outcome-based education.

Introduction

Faculty members face new curriculum development expectations and processes in response to global trends in higher education centred on economic challenges, changing student demographics, and shifts to learning-centred approaches and graduate attributes (Felder, Brent, & Prince, 2011; Hubball & Burt, 2004; Wolf, 2007). In addition, there is a growing trend toward outcome-based accreditation requirements for professional programs across the disciplinary spectrum, most notably nursing, engineering (e.g., Felder, Brent, & Prince, 2011), social work, and pharmacy. As educational developers support faculty in this shift, questions emerge regarding the roles and approaches of educational developers. This article provides a diverse set of models through a case study methodology which illustrate the role and approaches of educational developers in supporting faculty through the learning curve of designing curriculum tied to outcome-based accreditation and the importance of building relationships with and amongst faculty during curriculum development.

Faculty responding to new accreditation requirements encounter unfamiliar terminology, concepts, standards, procedures for the creation of learning outcomes and curriculum mapping, and measurement of student achievement and program quality. The challenge, as Hubball and Burt have noted, is that these 'inherent complexities in curriculum redesign can present significant pedagogical, as well as implementation challenges, for academic units in higher education' (2004, p. 63) and for educational developers as well. The emerging needs and implications for professional development are both discipline-specific and faculty development-wide allowing for the sharing and adapting of approaches among educational developers. Pharmacy faculty in Hubball & Burt's (2004) study saw outside expertise and professional development as 'required' (p. 62) as were leadership, time, and open dialogue. Educational developers bring this outside expertise in a variety of areas as well as the ability to coach and mentor faculty through a new process (Wolf, 2007).

Educational development within this context extends beyond formal workshops, learning communities, and assigned mentorship (Felder et al., 2011) into informal, ongoing, iterative, and integrative conversations with discipline faculty about curriculum, teaching, and assessments. Informal conversations are inherently practical and focused on what is relevant to faculty's courses and teaching but can contradict ideas in formal training or programs (Thomson, 2015). These informal discussions between faculty members and educational developers are also less common than formal training and consultations as only a third of Canadian directors report informal discussions as one of their signature approaches (Beach, Sorcinelli, Austin, & Rivard, 2016). Being part of these informal and just-in-time conversations necessitates the educational developer being increasingly embedded or connected to a particular department and involved in ongoing committees and curriculum change processes. Such involvement draws on discipline-specific awareness (Taylor, 2010), and furthers the expansion of educational developers' roles in quality assurance processes and in 'Curriculum and teaching change across a degree program, with coherent and aligned pedagogies and programme-level educational goals' (Gibbs, 2013, p. 6).

Within curriculum redesign, outcome-based accreditation has created both challenges and opportunities for faculty and for educational developers, who can bring

their expertise in program development and mapping, assessment, and outcome-based education to a context involving external accreditation or approval. With only 12% of centres indicating helping "the institution respond to accreditation, quality enhancement plans" as a goal, it was one of the least influential goals in Beach and colleagues (2016) snapshot study of educational development (p. 32-33). Though external accreditation or approval of programs was identified as, potentially, a more influential goal in the next ten years, this is already happening in Canadian post-secondary when educational developers use their curriculum development expertise to work with programs that are externally accredited or approved.

As part of this process, the role of both faculty and educational developers may shift. Faculty may be asked to become further engaged in their own local curriculum, the work of which often occurs away from centrally-located centres for teaching and learning. As a result, the role of educational developers and their centres has changed to encompass liaison and embedded roles, customized offerings, and process coaching with just-in-time support. The cases described outline variations in this move to work with faculty within their own program contexts as they design curricula.

These four case studies are from different disciplinary contexts, educational development approaches (embedded or not), and institutional settings in order to identify and share models for processes and resources as practice wisdom (Bamber & Stefani, 2015) that may be applicable to educational developers, faculty, and administrators working through curriculum development with an accreditation aspect. Each case study, occurring concurrently at the various institutions, includes the institutional and disciplinary context and the process for faculty engagement and support for faculty growth related to (as appropriate): defining and assessing outcomes; writing outcomes and mapping; and revising and creating curriculum.

The four cases, each written by a different educational developer, reflect their multi-year curriculum development experiences working with four accredited disciplines across three different institutions in Canada. Through a comparison of approaches, the authors analyzed themes arising across contexts that shape the practice of educational developers, including the importance of being there for just-in-time questions, preparing for and responding to learning curves, and adjusting to shifting timelines and processes internally and externally. Through a comparison of practice and the identification of approaches that are applicable and relevant across a variety of contexts, the authors provide working solutions and practices that educational developers might adopt to support new and experienced faculty in a variety of disciplinary contexts.

The variety presented in the cases, in regard to context and experiences, may be illustrative for educational developers working in various models and contexts. These concurrent cases occurred within a Canadian higher education setting across two institution types (comprehensive community colleges and research-intensive universities) and in three provinces (Alberta, Saskatchewan, and Newfoundland) with provincial rather than national oversight of post-secondary education and with varying government expectations for graduate outcomes. There were no formal international agreements related to graduate attributes. Drivers to complete, and thus engage in, outcome-based curriculum design were often national or international discipline-specific accreditation standards and expectations, sometimes coupled with internal institutional

standards. None of the cases took place in a province with an outcome-based quality assurance process relevant to the program at the time of the study. The result is a context where outcome-based curriculum design can be viewed as new, not part of faculty mandates, and as additional, optional, or administrative.

Case Study 1: Practical Nursing Diploma at Red Deer College

At Red Deer College, educational developers (Learning Designers) from the centrally located Centre for Teaching and Learning collaborate with discipline-specific faculty on curriculum (re)development, review, and quality improvement processes to meet internal and external standards. Using outcome-based design, faculty collaborating with the educational developer begin with the College's Board Ends, environmental scans, and stakeholder consultation before visioning and developing a Graduate Profile, Program Learning Outcomes, and Course Level Learning Outcomes (Wolf, 2007, p. 17). Threading, laddering, alignment, and assessment are checked throughout the process. The educational developer is not embedded with the School or Department but is an integral part of the team during the curriculum development.

In this case, the Practical Nursing (PN) Diploma program faculty worked as a team with the educational developer for almost two years to meet both external approval standards and internal curriculum standards. The curriculum documents at Red Deer College (spreadsheets called Curriculum Element, or CE, Sheets) were adapted to suit both. First, faculty focused on creating a current and relevant curriculum with emphasis on clinical reasoning, communication, leadership, ethics, and an expanded scope of practice while also ensuring graduates met the requisite knowledge and skills for entry to practice. Working with the educational developer and using comparative research provided as support, faculty wrote Program Outcomes to align to the College of Licensed Practical Nurses of Alberta (CLPNA) Standards of Practice (since revised).

Following the Program Outcomes stage, twenty-three courses were designed with measurable Course Learning Outcomes (CLOs) and aligned assessments. This process was lengthy and involved several months' worth of work with the educational developer and all core faculty members. Their use of Bloom's Taxonomy (Cognitive, Affective, and Psychomotor Domains) led to the creation of meaningful outcomes and careful laddering across the four terms. The faculty and the educational developer mapped these courses and their Course Learning Outcomes (CLO) to the Program Outcomes using the standard CE sheets. Faculty then also mapped each CLPNA Competency to the individual CLO. This was an iterative process: once a course was mapped, it had to be checked against the other courses to ensure alignment, threading, and laddering were maintained while meeting all CLPNA competencies.

The PN faculty had a clear understanding of the strengths of their existing program; it was important to recognize the past successes (Hubball & Burt, 2004) while using program redevelopment as an opportunity to focus the program on the future of the discipline. Led by the Learning Designer, faculty participated in tailored workshops on the various components of curriculum design (how to write outcomes, authentic assessment, outcome-based design, and teaching philosophies) resulting in a constructivist and learner-centred (Weimer, 2015) foundation for the program that the faculty co-created.

This level of curriculum work is tasking, physically and mentally, for all involved. Scheduling over the course of the project was difficult given teaching schedules. This meant that flexibility was key for the educational developer. However, the result illustrates that this model may work well for a variety of faculty groups. In this case, the educational developer worked with all faculty in the program in large and small group meetings to examine the program as a whole and the philosophical approach of the program. The educational developer also provided flexible, just-in-time support and research and evidence to support decision-making. The project culminated in the PN faculty developing a curriculum intentionally with their learners, institutional and geographical context, external approval, and the future scope of practice in Alberta as the foci of the redevelopment. As the internal curriculum work would be completed before the PN program's next approval process began, it was crucial that the work be done with that in mind so as not to add to their workload. This was streamlined through the process of mapping each Course Outcome to the aligned CLPNA competencies. The faculty development through this process also prepared faculty in the PN Diploma to respond to changes in the CLPNA Standards of Practice, to integrate new faculty into the new curriculum, and to co-create assessments, learning activities, and learning management system course shells as part of a cohesive and intentional curriculum. The role of the Learning Designer was one of facilitating and teaching the process, researching, checking the curriculum, and validating the experience of the faculty in working with internal and external systems. This model worked well in a College setting and with a Diploma program involving an external approval body.

Case Study 2: Engineering Programs at the University of Saskatchewan

The teaching centre is centrally located within the university, with program and curriculum development specialists acting as liaison and direct support with specific programs during curriculum development. The Engineering support responsibility was initially part of a pilot joint position and then was located centrally. The specialist's approach was to work with faculty members as they meet the challenge of curriculum review and renewal.

Over five years, one curriculum specialist supported the College of Engineering's eight programs as they prepared for their accreditation visit. As it was one of the first sets of programs nationally to have the new Canadian Engineering Accreditation Board's (CEAB) outcome-based reporting count towards accreditation standing, the challenge was to forge new learning outcome indicators, approaches to mapping curriculum, measurements, reports, and processes for reviewing and revising curriculum. The coordinating, collecting and measurement tool development work was the responsibility of a committee with one faculty member from each program, the associate dean as chair, and the curriculum specialist. Later addition of staff for minute-taking and central task coordination provided further assistance. The stakes and the workload were high for these faculty members.

In addition to the long-standing input (credit unit counting) approach to accreditation of engineering curriculum, the CEAB questionnaire outlines 12 broad graduate attributes: a knowledge base for engineering, problem solving, investigation, design, use of engineering tools, individual and teamwork, communication skills, professionalism, impact of engineering on society and the environment, ethics and

equity, economics and project management, lifelong learning. Each program's faculty was first tasked with developing 'indicators' (learning outcomes) for each attribute. The committee decided to jointly develop college-wide outcomes for 10 of the 12 attributes, with knowledge base and engineering tools remaining program-specific. Indicator development required curriculum specialist just-in time support in both consultations and during regular meetings as faculty members wrestled with the granularity of the outcomes, and the shift from instruction to learning, and from listing content topics to specifying outcomes related to knowledge, skills, and values.

Having examples is important. The Canadian debates about copyright in higher education made it challenging to share existing examples, so a new creative-commons licensed action verb list was co-created with educational developer colleagues; faculty then critiqued and expanded the verb list with discipline-specific words including 'to reuse' as in to reuse code. The resulting list was used throughout the process and with other programs.

Shifts nationally, from initial highly detailed year-specific outcomes to broader indicators assessed through sample specific measurements, complicated the planning. The faculty first developed very detailed assessment marking schemes to tease out specific skills. Then the focus shifted to developing shared rubrics with a single row for each indicator. To provide ongoing support for the discussion, the curriculum specialist conducted environmental scans and collected example rubrics and outcomes from across Canada and the USA. Brought to the faculty, these examples were critiqued, heavily revised, and adapted. In some cases, they simply inspired the faculty to develop better measures.

Initial indicators were developed based on the sub-components of CEAB attribute definitions and then mapped using the familiar interface of excel and a rating of introducing, teaching, and assessing by faculty teaching each course. This initial mapping informed discussions that led to creating full outcomes called indicators, which were then mapped by program accreditation leads. The indicators were then assessed by faculty, assigned and guided by the faculty leads for each program.

As faculty shifted to reviewing the results to implement changes, the curriculum specialist's focus also shifted to being available as a just-in-time connector and identifier of resources to support the newly created curriculum task forces for programs' curriculum and course design.

Case Study 3: Social Work Programs at Memorial University

A Teaching and Learning and Accreditation Consultant, embedded in the School of Social Work at Memorial University, promoted excellence in social work education and ensured ongoing compliance with the *Canadian Association of Social Work Education (CASWE) Standards for Accreditation.* By ensuring that the Standards' 9 Core Learning Objectives for Students (CLOS) were articulated and assessed in the School's curricula and field education there was a sustained focus in the School on quality teaching and student learning outcomes through faculty engagement.

Bachelor (BSW) and Master (MSW) Degree programs are accredited by CASWE. While the BSW program has been developed for several years, the School engaged in

formally mapping its curriculum to ensure alignment of course-level student learning outcomes with CLOS, program-level objectives, and university graduate-level attributes. The School employed a newly adopted curriculum mapping tool, CBlue Software, initially developed as an in-house solution at Memorial University's School of Medicine, to produce a variety of reports required to demonstrate accreditation compliance.

A symposium was held in which Social Work instructors reviewed the CASWE CLOS in 2013. This included a course analysis of the introductory social work course followed by a year-by-year program analysis with explicit focus on first year curriculum. Meetings were held with instructors to review course design and course-level student-learning outcomes by considering the scope and sequence of curriculum content and the verbs used to highlight what students need to learn relative to acquiring knowledge and skills for practice as well as the values, attitudes, and dispositions expected of them in professional practice. The constructive alignment of learning outcomes, teaching and learning activities, and student assessments were also highlighted.

Two factors, the provision of appropriate and constructive feedback to students and program evaluation, were considered. As an example, based on the importance of addressing key content areas, such as inclusion of francophone realities, course syllabi have been revised and updated to ensure inclusion of learning outcomes, resources, and student engagement with understanding francophone realities in the context of social work education. This emerged as a result of a need to address a recognized and important curriculum gap relative to the Standards' Guiding Principles. A suggested course syllabus template had also been made available to instructors.

Through curriculum mapping, instructors were supported by educational development practices that align with teaching and learning in social work education. Opportunities for individual consultations were available to instructors to visit the Consultant's office to discuss ideas they have for their courses, such as assignment design, approaches to teaching for critical thinking, and encouraging reflexivity. The Consultant facilitated discussions in Faculty Learning Communities (the Scholarship of Teaching and Learning (SoTL) and Pedagogies for Engagement in Social Work Education), *Teaching Matters* discussion groups, and various social work education workshop sessions (Constructive Alignment, Assessment for Learning, Effective Use of Feedback, and Teaching for Critical Thinking). These were important opportunities for faculty members to have a space to talk about their work as social work educators, to consider social work pedagogy, and to learn about and share ideas and practices that are effective in teaching and addressing the CLOS. These opportunities for faculty served to raise awareness of quality teaching. Further, faculty members are encouraged to participate in SoTL and peer review of teaching. The Consultant shared research and literature related to teaching and learning with faculty and staff.

Case Study 4: Pharmacy Doctoral (Pharm D) at the University of Saskatchewan

The division of Pharmacy underwent substantial curriculum reform while planning a Pharm-D program (2017 launch). The drafting of the Pharm-D curriculum and the time devoted to working groups took faculty time necessary to train them for the weighty process of planning and drafting a curriculum. In order to meet the needs of faculty and

move ahead with curriculum redesign, we developed a strategy that would give them the skills they required to take on the task at hand, without developing a concurrent faculty development program that may have led to a low level of engagement as a result of increased time demands.

The first step in this was the collection of a survey, which considered faculty areas of interest. A survey was created in consultation with the Pharm-D development group to align key areas of educational development with Pharm-D curriculum facilitation activities.

While Pharm-D plans were being developed, College of Pharmacy and Nutrition staff worked with colleagues at the teaching and learning centre, to ensure faculty development was built into the facilitation of the Pharm-D planning sessions, building bite-size amounts of training in where it was possible, without overwhelming faculty with content. This content focused on:

- The purpose of assessment
- Defining learning outcomes
- Aligning assessment with learning outcomes
- Aligning teaching methods

While this was taking place, key contacts from both the teaching centre and the College were supporting the early stages of mapping of the curriculum, attending Pharm-D development meetings to maintain an all-encompassing view of what was being developed. On an ongoing basis, the College of Pharmacy and Nutrition redefined curriculum mapping as a process. Currently, Nutrition uses an online open-source Curriculum Alignment Tool (CAT) to track instruction methods, assessment methods, learning outcomes and contributions to program outcomes. This process is electronic and requires faculty or a designated alternate to enter their course information individually.

Instead of making additional demands on faculty members' time, a plan was developed to distribute a syllabus template, with key areas of curriculum mapping as areas to populate, including learning outcomes developed with Bloom's Taxonomy, outcomes or competencies from the Association of Faculties of Pharmacy of Canada (AFPC) and the National Association of Pharmacy Regulatory Authorities (NAPRA) Competencies, depth of learning, teaching methods and methods of assessment. These will be managed centrally, as will the curriculum mapping process. All fields will be input into the CAT by a staff member, who will then share results with the Curriculum Management Working Group.

A risk of a centralized, staff-led curriculum mapping is the potential disengagement of faculty in considering the end result, or the curriculum overall and the subsequent curriculum redesign. The described model was utilized during a time when the college required faculty to focus their efforts on Pharm-D development, however, ongoing support is something to consider as curriculum development happens on an annual basis.

Overall, the role of an embedded educational developer, working in tandem with a teaching centre, had afforded the College an opportunity to meet professionally required

competencies, maintain consideration of faculty time, and work towards alignment across outcomes, activities, and assessments.

Four Stories, Shared Themes

In the above case studies, each educational developer worked with a unique faculty group on a different disciplinary curriculum with the added component of external accreditation or approval. Yet, in all four cases, the educational developer helped the process of curriculum development move forward by providing research, resources, and information, by offering and supporting software for mapping, by leading the process when necessary, by being a sounding-board for curriculum ideas (and complaints), and by creating a relationship with the faculty that embodied trust and investment in the process.

These cases also reveal and illustrate the conceptual shift for faculty, as specific content experts, becoming involved in the process of outcome-based curriculum design. Outcome-based curriculum requires transformations in thinking about students' learning, their assessments as measuring learning, the nature of curriculum, and design. The act of outcome-based curriculum development further shifts curriculum and teaching from a focus on the individual building blocks that can be counted and summed, to seeing curriculum as interconnected and shared. Such shifts require faculty to invest a lot in the process. Educational developers, whether centrally located or embedded, are critical in making this learning curve manageable by creating or repurposing resources tailored to the needs of the program and by building relationships that support, guide, and encourage faculty in their work. Fostering the sense of group purpose becomes central to the educational developer's role and value which includes the crucial step of building positive relationships individually and within and amongst groups (Bamber & Stefani, 2015).

By working with faculty, educational developers in all four cases, successfully integrated with the faculty to identify and achieve their shared goal of designing or redesigning a curriculum in new ways that would meet the needs of learners and accrediting or approving bodies.

Conclusion

Across the four case studies, a diverse set of curricula and models were presented which illustrate the roles and approaches of educational developers in supporting the learning curve of outcome-based accreditation and the importance of building relationships with and amongst faculty in curriculum development. Case studies can provide descriptions of lived practice for consideration of transferability but generalizing the effectiveness of the approaches requires future research through application in additional projects and contexts.

Outcome-based accreditation is continuing to expand across accredited disciplines within Canada and internationally. We acknowledge that demands on faculty time are high and that adding curriculum development to their workload must be managed carefully. Flexible scheduling, just-in-time support, and guidance can help address this tension. Educational developers need to be responsive to faculty's shifting needs during curriculum development by creating avenues and resources that build faculty

understanding and engagement in the shared curriculum. The educational developer may already have a process in place for curriculum design but, depending on the needs of faculty and the accrediting or approval body, this process may need to be adjusted to meet internal or external demands or timelines, as well as disciplinary contexts (Taylor, 2010).

This study of educational developers' support of curriculum development in different regions with emerging outcome-based accreditation or approval processes draws on existing insights and frameworks while contributing a nuanced practical examination of our roles and approaches. By sharing and describing these cases as practice wisdom, we were each able to identify areas that could be applied to our settings and practices while also presenting key challenges and approaches that may support other educational developers working with externally accredited or approved outcome-based curriculum projects.

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