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A Collaborative Process to Establishing PLOs at a Canadian University

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Abstract: In 2007, the Ministers of Education across Canada adopted the Canadian Degree Qualifications Framework, articulating learning outcomes for bachelor's, master's, and doctoral degrees. Yet, by 2016, only 30% of Canadian institutions reported having learning outcomes for all programs (MacFarlane & Brumwell, 2016). One obstacle institutions face when developing program learning outcomes (PLOs) is faculty resistance. Unfortunately, faculty participation is critical to successfully implementing PLOs. This paper describes the process used to develop PLOs in the Faculty of Science at UBC Okanagan, which is deeply collaborative and consultative, to gain faculty buy-in and initiate a positive culture around learning outcomes and assessment. This was accomplished by educating faculty on the benefits and rationale for implementing PLOs, fostering faculty ownership of PLOs, supporting faculty through the process, and engaging with various stakeholders. This collaborative process led to community building, increased stakeholder commitment, laid the foundation for future collaborations, and fostered robust PLOs.

Keywords: *program learning outcomes, initiating a culture of assessment, faculty/student/community consultation*

Introduction

Higher education institutions worldwide are under increasing pressure to demonstrate their effectiveness and accountability. In the United States of America (USA), institutional accreditation enhances reputation and qualifies universities for federal funding. Accreditation, at the institutional level, is the primary motivation behind learning outcome assessment in the USA (Kuh et al., 2014). In contrast, accreditation in Canada is typically at the program level and restricted to professional programs such as engineering, nursing, and teacher education. Canadian institutions have few incentives outside these programs to articulate and assess learning outcomes. As a result, Canadian institutions lag behind those in the USA in outcome-based quality assurance efforts.

By 2016, only 30% of Canadian institutions reported having learning outcomes for all programs (MacFarlane & Brumwell, 2016). One of the most significant barriers to developing and implementing program learning outcomes is faculty resistance. Many faculty members view program-level outcomes and assessments as a mere box-ticking exercise and are concerned about time investment, academic freedom, and subsequent use of assessment information (Palomba & Banta, 1999). MacFarlane and Brumwell stress that "learning outcomes require a change in mindset/culture" (2016, p. 29). Faculty

participation is needed for effective program outcome design and assessment; in fact, nothing is more critical than widespread faculty involvement (Palomba & Banta, 1999).

This paper describes the first step in a continuous improvement process designed to engage all stakeholders. A collaborative, ground-up process was undertaken to establish program learning outcomes at a mid-sized, research-intensive Canadian university. The process was designed to be consultative and inclusive to gain stakeholder buy-in and initiate a positive culture around learning outcomes and assessment. This work is significant because faculty engagement is critical to a successful continuous improvement process. Such a process ensures that academic programs remain effective and relevant. This paper provides a model for enhancing higher education quality and relevance in Canada, the United States, and beyond.

Background and Context

Quality assurance in Canadian higher education is a somewhat recent development. By the turn of the 21st century, education was increasingly understood to drive economic advancement. The Organization for Economic Cooperation and Development (OECD) described higher education as a "major driver of economic competitiveness in an increasingly knowledge-driven global economy" (Santiago & Organization for Economic Cooperation and Development, 2008, p.13). This growing recognition spurred government and public interest in the accountability of post-secondary institutions' producing graduates to fill labor market needs and foster economic growth (Skolnik, 2010). This accountability was "to ensure quality through the use of processes that came to be known as quality assurance" (Siedlaczek, 2022, p. 21). Quality assurance pertains to the monitoring, evaluating, or reviewing of higher education to maintain stakeholder confidence that the institution meets expectations or minimum standards (Martin & Stella, 2007).

The earliest forms of quality assurance in Canada are those connected to professions such as law, medicine, engineering, and teaching (Baker & Miosi, 2010). Universities must prepare graduates of these programs to meet the licensure or examination requirements so that graduates can obtain the professional designation. Professional bodies often review these programs to ensure the standards are met before granting accreditation. This accreditation typically exists at the program level. In contrast, the Association of Universities and Colleges of Canada (AUCC) considers institutional-level accreditation. While AUCC is not a quality assurance organization, in some respects, it has served as a "proxy" for a national accreditor (Baker & Miosi, 2010). AUCC was rebranded as Universities Canada in 2015. While it maintains that "each Canadian university is autonomous in academic matters and determines its own quality assurance standards and procedures" (Universities Canada, n.d.), in 2004, it published guidelines to support member institutions in developing internal quality assurance policies and procedures.

The individual Provinces and Territories regulate post-secondary education in Canada; however, in 2007, the Ministers of Education from all 13 provinces and territories agreed on the Canadian Degree Qualifications Framework (CDQF). Based on the Dublin Descriptors, the framework articulates the degree-level standards or expected learning outcomes for bachelor's, master's, and doctoral degrees (Council of Ministers of Education, Canada, 2007). The CDQF provided a foundation for provincial

quality assurance processes. However, alignment with the framework is only required when new programs are created or existing programs undergo significant revisions which constitute Ministry review. Thus, the majority of programs have yet to conform. Further, many of the institutions who have attempted to implement and assess program learning outcomes have met vociferous faculty resistance.

Faculty Resistance

Faculty involvement in developing and assessing learning outcomes is crucial (Bahous & Nabhani, 2015; Haviland et al., 2011; Hutchings, 2010; Marrs, 2009; Muffo, 2001; Palomba & Banta, 1999). Hutchings (2010) claims that faculty involvement is the "gold standard, the key to assessment's impact 'on the ground' in classrooms where teachers and students meet" (p. 6). Muffo (2001) argues that efforts to improve teaching and learning will only be effective to the extent that faculty own the process. Unfortunately, implementing and assessing program learning outcomes has met considerable resistance from faculty members. This resistance is rooted in various concerns surrounding the nature and implications of such assessments, including a perceived threat to academic freedom, increased workload, the effectiveness of such approaches, and a lack of education or expertise about learning outcomes.

One oft-cited reason for faculty resistance to program assessment centers on academic freedom (Bahous & Nabhani, 2015; Gorran Farkas, 2013) and the perceived questioning of instructor competence. Academic freedom is a fiercely-guarded value that grants faculty the right to conduct research and teaching as they see fit. Academic freedom or autonomy is of critical importance in higher education and can be viewed in opposition to outcome-based assessment. Ewell (in Hutchings, 2010) suggests that the underlying premise of assessment for improvement implies that something is wrong with the instruction, which suggests a lack of faith in instructors to meet a level of standard (Marrs, 2009). As Baas et al. (2016) note, some faculty view this approach as "unjustifiably contrary to the respect and deference given to universities in the past" (p. 3). These perspectives illustrate an apprehension about the implications of assessment on the professional integrity and freedom of faculty. Faculty resistance is further exacerbated by the additional workload required to implement and assess program learning outcomes.

Implementing outcome-based assessment requires a significant investment of faculty time and effort. Faculty members are finding it increasingly challenging to juggle the multiple aspects of their roles, including research, teaching, and service. The addition of program assessment adds to this pressure. Program assessment is perceived to be time-consuming and is often seen as "added-on" (Marrs, 2009, p. 7) to other faculty responsibilities with little to no recognition or reward (Bahous & Nabhani, 2015; Marrs, 2009). The prevailing academic culture, which prioritizes research outputs in promotion and tenure decisions, inadvertently devalues efforts toward enhancing teaching and student learning (Hutchings, 2010; Marrs, 2009). Faculty members are naturally inclined to allocate their limited time to activities that most benefit them, personally and professionally.

Another reason for faculty resistance is skepticism about the effectiveness of outcome-based assessment in improving student learning. Bahous and Nabhani (2015) note that some faculty

members perceive the process as superficial, especially when it lacks the intention of being used to lead program improvement. Faculty hesitate to invest time and effort into an exercise they see as one solely to appease external accreditors. Additionally, they question whether anyone ever looks at the assembled data or if the exercise is just a waste of time (Marrs, 2009). Banta (2007) highlights the tension between 'assessment for accountability' and 'assessment for improvement', while Maki (2002) adds that the perception is that institutions are concerned only with accreditation and not with improving student learning. Marrs (2009) takes this concern further, suggesting that some faculty members view assessment initiatives as threatening if department or even instructor evaluations were partly based on outcome results.

Faculty may lack understanding and education around the value of and process for implementing program learning outcomes and assessment, which may lead to resistance. Most professors are not trained as teachers (Banta, 2007; Hutchings, 2010; Marrs, 2009); they may avoid learning outcomes and their assessment because they do not fully understand it. In general, faculty have little training in how to "do assessment" (Muffo, 2001, p. 68). Faculty are disciplinary experts, and their doctoral training is likely focused on training them as researchers rather than teachers (Hutchings, 2010; Marrs, 2009). "Faculty, for whom expertise is a premier value, have bowed out, not wanting to be seen as amateurs and dilettantes" (Hutchings, 2010, p. 9). The current process attempted to navigate these concerns with a widely consultative process, ensuring the program learning outcomes were relevant and that all stakeholders, including faculty members, were involved and vested in the outcome. The following sections detail the methods, findings, and conclusions.

Method

The process was initiated with a series of presentations aimed at educating and engaging faculty members on the benefits of an outcome-based approach. The entire Faculty was then involved in articulating and approving Degree Learning Outcomes (DLOs). These DLOs, which are broad statements describing the competencies of graduates from all programs or majors within the degree, formed the foundation for the next step. Program committees, consisting of faculty members, were formed to draft Program Learning Outcomes (PLOs). Once the PLOs were drafted, students, alumni, and industry professionals were consulted before the PLOs were adopted via vote. The detailed steps are provided below.

To begin, a series of short presentations were delivered at the departmental, committee, and Faculty levels to explain and promote the value of an outcome-based approach. These sessions, designed to be brief and informative, provided an opportunity for faculty members to ask questions and engage in dialogue. The primary goal of these presentations was to enhance understanding, familiarize faculty with the available support, and increase awareness of learning outcomes. Overall, the presentations were well received.

We then worked towards articulating degree-level learning outcomes (DLOs). DLOs are outcomes identified at the degree level, such as the Bachelor of Science (BSc). The DLOs are broad since all BSc programs at the institution are expected to achieve them. The Faculty's Curriculum and Leadership Committees articulated and refined the DLOs. Students, alumni, faculty members, and professional

staff were then consulted and given an opportunity to supply anonymous feedback. This feedback was carefully considered and incorporated where helpful. To further foster engagement, every respondent received a reply to thank them for their time and effort and to inform them how their suggestions were considered and incorporated. The DLOs were revised, formally approved, and published on the Faculty's website. While the utility of an additional layer of outcomes could be questioned, the DLOs proved critical in gaining Faculty-wide buy-in. With the DLO framework in place, specific programs (e.g., Computer Science or Biology) could start to articulate their program learning outcomes.

Departments had been introduced to learning outcomes multiple times by this point. The Department head or lead assembled a committee of approximately six faculty members. Committee size varied by program, but six was considered a good number as it allowed us to schedule a block of time together, it is not too many members that people can attend but not participate, and it is not too few that there is a dearth of ideas. Before meeting with the department committee, we conducted an internet search to identify comparable PLOs at other postsecondary institutions, which were then categorized by the Faculty DLOs. We organized a three-hour workshop to articulate a first draft of the PLOs. In the workshop, time was spent brainstorming the critical knowledge and skills, both technical and transferable, expected for graduates of the discipline. A series of questions prompted this conversation:

1. What skills do you expect students to have when they complete their degree?
2. What differentiates your program from programs at other institutions?
3. What skills are critical for success in a career in your discipline?
4. What skills are critical for success in your discipline's graduate studies?
5. What do employers expect graduates of your program to be able to do?
6. What skills would the ideal program ambassador possess?
7. Is there anything unique about the program that should be highlighted?

In the second half of the workshop, we reviewed the anatomy of a learning outcome, and then the committee worked on the ideas generated into outcome statements. The aim was to formulate outcomes without getting hindered by wording or perfection. After the session, the draft PLOs were edited and then circulated back to the committee for further input. When the committee was satisfied, the draft PLOs were circulated to the Department faculty and staff for anonymous feedback. The draft PLOs were revised based on the feedback received. Again, all respondents received a reply to thank them for their time and effort and to share how their suggestions were considered and incorporated. Further stakeholders, including students, alumni, and industry, were then consulted to ensure the drafted outcomes were clear, comprehensive, and relevant.

Students were consulted through in-person 90- to 120-minute focus group sessions. The focus groups were advertised through PowerPoint slides distributed to instructors and through the course unions. Food, beverages, and deep appreciation were offered to the students who volunteered their time. Student focus group questions included:

1. When did you choose this major? Why?
2. Was there anything that led you to choose this university over others?
3. What skills or competencies should professionals in this discipline have?

    a. What hard/technical skills (e.g., data analysis, environmental impact assessment)?
    b. What soft or transferable skills (e.g., communication, teamwork, project management)?
4. Which courses or experiences in your program have been the most enriching/impactful? Why?
5. Did you feel unprepared for any courses? If so, which?
6. Looking at the draft outcomes, is there anything in this document you are confused by or have questions about?
    a. Are they clear and understandable? For a first-year student?
    b. Are there any outcomes/skills that you feel are missing?
    c. Is there anything you feel is redundant? Over emphasized?
    d. Do the outcomes match your learning expectations when you chose the program?
    e. Do the outcomes match your learning expectations now?
7. Do you have any suggestions for improving the program?

We generally held two student focus groups per program to accommodate different schedules and had four to twelve participants, with an average of six participants per session. Students who attended appreciated the chance to share their opinions and were open to further consultation should that be desired.

The UBC Development and Alumni Engagement office supplied contact information for our alumni. Alumni were emailed to request their feedback on the draft PLOs. Feedback was supplied through a Qualtrics survey, which asked:

1. Is the language in the program learning outcomes clear and understandable?
2. Do the skills in the program learning outcomes align with your expectations for graduates in this program? Are there any skills that are missing? If so, please describe them.
3. Did the program adequately prepare you for your current position? Were there specific skills you felt were lacking as you transitioned into the workforce or pursued further studies?
4. Reflecting on your time in the program, please tell us about experiences that significantly impacted your learning and personal development.
5. Do you have any recommendations for improving the program? These recommendations could include new course offerings, interdisciplinary approaches, increased experiential learning opportunities, or other suggestions.

A final question in the survey asked if alumni would be interested in discussing their experience further. Alumni who agreed and provided contact information were emailed a Doodle poll to identify a time for a focus group. The alumni focus groups were held on Zoom and lasted 60 to 90 minutes. We generally scheduled one alumni focus group per program based on participants' schedules, and had an average of five participants. The questions posed during the alumni focus groups clarified the results of the survey.

We obtained a list of industry contacts from faculty members, as well as a list of employers who had hired co-op students from the program. Industry contacts were emailed the PLOs and a series of prompts:

1. Are there any essential skills or knowledge missing from the proposed program learning outcomes that are necessary for success in your field? If so, please explain.
2. Are there any emerging trends or technologies you believe our graduates should be prepared for? If so, please describe.
3. In your experience with graduates of our program, are there gaps in their knowledge or skills that our program should address?
4. Please share any additional comments or suggestions related to the program learning outcomes or the program in general.

Industry contacts were invited to respond in the way that was easiest for them: via email, Qualtrics survey, phone, or Zoom chat. Response rates from industry varied dramatically, with some programs receiving no responses and others getting responses from all those who were contacted. As expected, those contacted through personal connections were much more fruitful.

Feedback from all stakeholders was reviewed and incorporated before the Department and Faculty voted to approve the PLOs.

Discussion

Overcoming faculty resistance and gaining comprehensive engagement requires thoughtful strategies to address faculty concerns around academic freedom, workload, efficacy, and education. This collaborative approach not only resolved resistance but also led to several benefits, including building community and setting the stage for future collaborations. Building strong relationships with faculty members and other stakeholders has been instrumental to our success in general and overcoming faculty resistance specifically. This project is not just about implementing curricular improvements but is also about fostering a culture of collaboration, which will be essential as we move into the next stages of our continuous improvement process. Establishing trust and mutual respect with faculty members and stakeholders was not just beneficial; it was essential. Suskie (2018) argues that “an important way to build a pervasive culture of assessment is to respect the people who contribute” (p. 119). This section examines the reasons for faculty resistance and strategies to overcome them. It also discusses the benefits and limitations of this process.

Academic freedom, a fiercely guarded value in higher education, can be perceived to oppose an outcome-based approach. To avoid this conflicting perspective, the current work involved faculty members in every stage of the process. Further, the program and its faculty members are consistently emphasized as the owners of the PLOs. They decide what to include and exclude in terms of outcomes and assessments. This approach is echoed by Haviland et al. (2009), “ Faculty must be the ultimate leaders of their assessment efforts. It is up to them as a group to articulate learning outcomes, identify ways to gather meaningful data, interpret the data, and craft and implement program change” (p. 5). Involving faculty in all stages promoted a sense of ownership and responsibility for achieving the learning outcomes.

To address concerns around workload, a team of three curriculum staff was assembled to support programs through the PLO development process. The team makes every effort to limit the demands on faculty members. They provide help, resources, and answers when and where needed while emphasizing that the program and its constituent faculty members are the owners of the PLOs. Further, although the improvement process is continuous, focusing on the current task helps to avoid being overwhelmed by the entire process. Bahous and Nabhani (2015) emphasize the need to simplify and facilitate the steps for faculty so they do not feel overwhelmed.

Education about the benefits of an outcome-based approach is ongoing. As the Curriculum and Academic Program Manager for the Faculty, I continuously advocate for the benefits and best practices associated with outcome-based curriculum design and assessment. I am always available to discuss or answer questions in person, via email, or on a Zoom call. I regularly ask faculty what they need or want to know, and the team compiles and disseminates relevant information. Faculty need support through all phases of the continuous improvement process, with a focus on how outcomes and assessments improve student learning (Bahous & Nabhani, 2015; Banta & Blaich, 2011). In every interaction, I emphasize that the role of the faculty is as content experts and owners of the PLOs, while my role is to support them in those tasks.

The benefits of faculty-owned PLOs are numerous. Suskie (2018) notes that this process unifies faculty toward a shared vision, encouraging more consistent and coherent programs. Articulating PLOs "allowed faculty to know where they are going, and what they are doing" (Bahous & Nabhani, 2015, p. 303). Adopting a collaborative approach to implementing PLOs within the Faculty of Science has brought many benefits. A strategic priority of the Faculty is building community relationships. The PLO process has created valuable opportunities for relationship building and fostered unique interactions; for example, it facilitated conversations between first-year and fourth-year students, provided a platform for alumni from diverse backgrounds to connect, and enabled industry members working in similar fields to meet and engage.

One of the most significant advantages of this approach is the heightened level of commitment it fostered among all stakeholders, not only for faculty but also for students and industry partners. Ideally, students will be more aware of and active in their learning due to this project, and industry partners will better recognize the value these programs and graduates bring.

People inherently enjoy contributing to causes about which they are passionate. The consultative PLO development process has been instrumental in validating and valuing the opinions and experiences of stakeholders. This validation boosts morale and fosters greater buy-in and support for the program's initiatives. The engagement and relationship-building fostered through this consultative approach have laid a solid foundation for future collaborations. These potential collaborations span various levels, from involvement in program advisory committees and research projects to practical opportunities for students like capstone projects, co-op placements, permanent job positions, and funding opportunities.

Of course, the fundamental motivation behind this consultative approach is the development of robust program learning outcomes and a culture of assessment. Incorporating a wide range of voices and perspectives ensures that the PLOs are comprehensive, broadly relevant, and accessible. This inclusivity in design and implementation leads to PLOs that reflect the community's diverse needs and aspirations, making them more effective and impactful. In essence, this consultative approach does more than implement outcomes, it fosters a collaborative and dynamic educational environment where all stakeholders have a voice and a stake in the future of our programs.

Limitations of the applicability of this work include the marked difference between the American and Canadian contexts. Perhaps the most prominent contrast is the motivation behind assessment between the American system, which is focused on accreditation, and the Canadian system, which, given its lack of accreditation, allows for a focus on continuous improvement. While there is an element of accountability in the Canadian system, it is accountability for the outcomes the department has set. Further, the department can modify its outcomes when desired or needed. Therefore, the department holds itself accountable for achieving the learning outcomes it has selected. It is this difference in the underlying approach that may limit the process's applicability to American institutions.

Another limitation is my unique role within the Faculty of Science. Most other professionals with similar roles work at a center for teaching and learning or an office of institutional effectiveness, removed from the Faculty. My positioning within the Faculty allows for greater access to department heads and faculty, and deeper relationship building, which may not be possible in roles that support a whole campus.

Conclusion

Overcoming faculty resistance to outcome-based program design and assessment is challenging, but with the right approach, it is achievable. Actively involving the faculty from the outset, simplifying the process, and educating them about the benefits of PLOs are crucial in fostering a collaborative and effective culture of assessment. The proposed approach alleviates resistance and enhances the educational experience for both faculty and students, leading to a more cohesive, engaged, and impactful learning environment. Moreover, as Suskie (2018) emphasizes, collaboration engenders ownership of the assessment process, leading to more effective implementation and meaningful use of evidence. The significance of this study lies in its potential to transform higher education, making continuous improvement a more integral part of the academic journey for educators and learners alike. Future work will focus on incorporating technological tools, including software and artificial intelligence, for efficiency and evaluating improvements in student learning and success.

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