**Refresh: Educational Technology and Professional Development**

**A response paper by
the Professional and Scholarly Development Committee of FPSE**

**Introduction**

In 2009, the Federation of Post-Secondary Educators of BC's (FPSE) Education Policy Committee (EPC) prepared a discussion paper entitled "Reboot: Making Education Technology Work for Faculty and Students," offering it as a "catalyst for an on-going conversation within our ranks about the pace, direction and impact that technology is having in the post-secondary education workplace." FPSE's Professional and Scholarly Development Committee (PSDC) members offer this paper as a complementary rejoinder to "Reboot" addressed to all FPSE members. Our aim is to look at educational technology from a professional development perspective and argue the importance of ongoing training for members not only in the use of learning management systems (which most of us are getting) but, more importantly, in the pedagogy and use of Web 2.0 technology. Throughout this paper we refer to aspects of the EPC's paper and also include our own perspective on what is needed to ensure faculty members are able to make the best use of technology. Ultimately, we argue that administration should be responsible for ensuring we have the resources and training needed to design and deliver quality online courses and technologically supplemented face-to-face offerings.

These resources, we contend, need to be much more than most of us are getting now. For example, 31% of our institutions do not have instructional designers permanently available to support faculty, but, instead, rely on IT staff, who are generally not trained in pedagogy. The EPC concludes its paper, aptly stating "as activists and advocates for post-secondary education we need to continue to broaden the public discourse on learning by probing the pedagogical issues associated with changing technologies and in so doing reframe the discussion [about] technology from one of operating efficiency to one of enhancing the opportunity to learn, explore and create." We wholeheartedly agree with this sentiment and, in terms of professional development, contend opportunities to "learn, explore and create" can only be undertaken with training in pedagogically sound approaches to designing and delivering online courses and the use of Web 2.0 tools. While some of us, especially newer instructors, are voluntarily undertaking foundational training (such as online teaching diplomas), many of us are still in need of training and support as we undertake to make use of technology. And, of course, as technology is always changing and Learning Management Systems (LMS) are continually evolving, ongoing training for all of us is necessary as well. This

paper outlines what we mean by both "pedagogically sound" and "Web 2.0," offering examples of both to make our case. We strongly believe faculty should not only know and follow best practices but should also be equipped to innovate and lead.

**Educational Technology and Pedagogy: Meaning and Scope**

We can all agree about the meaning of pedagogy, but exactly what we mean when we make a case for pedagogical training for teaching with technology may not be quite as apparent. Unsurprisingly, many studies have been done in the last couple of decades to analyze the effectiveness of online teaching/learning as well as the use of technology to supplement the face-to-face classroom. Indeed, one can now pursue Masters and Doctorates in this subject. Obviously, we cannot all take such prolonged and intense training (nor would we want to); however, we can and should learn some of the basic differences between the traditional classroom and technology-based teaching. This expectation is especially true as we see more and more students expecting technology to be a part of their courses.

It is not unreasonable to state most of us have accepted the idea, at least in principle, of learner-centered teaching (constructivism) being desirable and worthwhile. Indeed, we tend to agree the "sage on the stage" content-transmission style of teaching is not the most effective way of learning and teaching. However, when it comes to online courses, content transmission is most commonly what we still find; indeed, Murthy, Iyer and Warriem (2015) note

> Educators have recommended that the affordances provided by ICTs [Information and Communication Technology] should be used to promote student-centered constructivist learning. While the actual use of ICT in education has increased, not much change has occurred in terms of the pedagogical practices followed. Information transmission models of teaching are still being followed, albeit with the use of ICT.

This direction is not surprising when we consider the lack of training offered members by administrations.

Instructors who have no training in online teaching are often given a shell in their LMS and sent on their way. Granted, our institutions provide us with LMS training (as noted in the PSDC survey results), and it is easy to see why we would need a bit of help learning how to actually use our LMS, whether it be D2L, Moodle, or some other platform. In fact, the Sectoral Agreement, Article 6.6 relates to educational technology/distributed learning with 6.6.4

stating "The employer will provide the necessary technological and human resources for employees assigned to develop and deliver the program and courses" and 6.6.5, "The employer will provide the necessary and appropriate training in the use of relevant educational technology for employees assigned to deliver distributed learning programs and courses" (p. 21-22). Our survey shows, for the most part, these articles have been interpreted to mean *basic* LMS training. We contend this level is not enough and administration/faculty need to collectively and collegially rethink exactly what these articles mean. If they cannot be reinterpreted, we recommend the language be revisited and clarified during bargaining.

However, teaching online or using a LMS to supplement a face-to-face course requires more than just knowledge of the systems' functionalities. We would argue we need training in current pedagogy and the use of Web 2.0 technology. These are discussed in turn below.

**Pedagogy: Examples**

Designing our online and technologically supplemented courses takes careful planning and training. It is unreasonable to expect faculty, no matter how experienced at teaching in the traditional classroom, to inherently know how to approach teaching with technology. Studies, books, courses, and online training material abound, but how are instructors to (1) find the time, (2) sift through the chaff to find the wheat, and (3) have the knowledge to decide what technology and pedagogy is needed to accomplish the goals they have set out in their learning outcomes and assessments? An investigation of some of these resources soon reveals that models for online and supplemented course development also abound, with most intimating course development should not happen without this knowledge. Nonetheless, many faculty either do not know about these models or do not have the time to incorporate this knowledge. Indeed, the PSDC's survey shows some interesting results when it asked whether or not faculty were offered training in instructional design models. While 12% said yes, 50% said no, and 37% either did not answer this question or were uncertain. This uncertainty speaks for itself; it is difficult to answer a question we do not understand. Designing courses without this training will invariably affect the quality of our courses.

Diaz and Bontembal wisely point out "[u]sing technology to enhance the educational process involves more than just learning how to use specific piece of hardware and software. It requires an understanding of pedagogical principles that are specific to the use of technology in an instructional setting" (as cited in Okojie, Olinzock and Okojie-Boulder, 2006). Okojie et al. continue and emphasize "[a] major part of the problem related to technology integration is that most educators have not addressed the pedagogical principles that will guide their use of technology for teaching and learning" (2006).

Once instructors understand how to choose the right tool for a specific goal, they will be better positioned to offer a say into our institutions' decisions about technology. The EPC spoke of the "frustrations that faculty have with the choices made by administrators when it comes to changing technology and the extent to which faculty input into those choices is either ignored or marginalized." Indeed, decisions about LMS's are often based on cost rather than ease-of-use and effectiveness, and, of course, faculty input would lean toward the latter. In addition, if administration wants to ensure faculty buy-in, then we must be included in the decision-making process. Okojie et. al similarly contend "Technology should be implemented in the classroom only if its role in a given instruction is determined along with pedagogical issues related to a given instructional task. The role of technology in education can only be determined if teachers who implement technology at the classroom level are involved in technology decision-making because teachers have the responsibility of facilitating instruction" (2006). Thus, if faculty wish to demand greater input into institutional decision-making, we need to have a sound and thorough understanding of the pedagogy of instructing with technology and the relationship between pedagogy and technological decision-making both at the institutional and course levels.
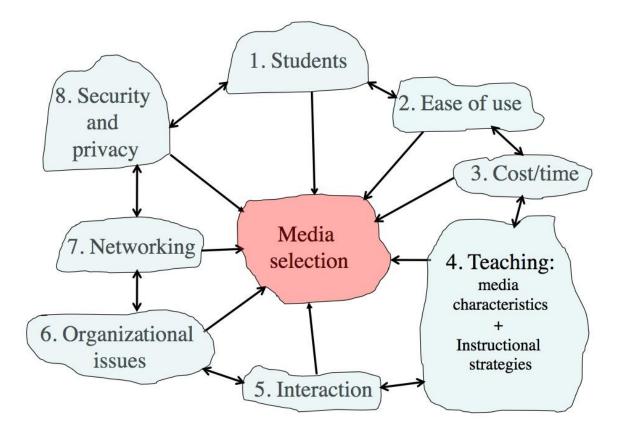
There are several models, all of which serve to help faculty understand the steps they should take to ensure their courses are well planned and executed, for example: ADDIE (Analyse, Design, Develop, Implement, Evaluate)  and SAM (Successive Approximation Model). While these two models differ, the point is faculty need to understand that a systematic approach to designing their courses is necessary and, barring the direct and ongoing support of in-house instructional designers, they should have some understanding of what this planning and execution entails.

Okojie et. al offer their own variation of a systems approach:
- Identifying learning objectives in a technology-based instruction requires teachers to select and/or adapt instructional technology to match the objectives based on the students' needs.
- Presenting instruction using technology as part of the instructional process requires teachers to choose the methods that are relevant to the objectives, the technology selected, learning styles, modes and pace of learning.
- Evaluating technology-based instruction requires teachers to select appropriate evaluation techniques that are relevant to the objectives, methods of instruction, and to technologies that have been used.

- Designing follow-up activities using technology requires teachers to select appropriate follow-up materials that are relevant to the objectives of the instruction and technologies that are accessible to the students as well as easy to use.
- Developing course enrichment materials using technology requires teachers to provide opportunity for students to explore issues related to the course materials and to provide them with the opportunity to select and analyze course enrichment materials using technology in ways that broaden their problem-solving skills.
- Locating sources for additional instructional materials using technology requires teachers to use the internet and multimedia networks to develop additional learning materials and expand instructional resources aimed at broadening the knowledge and the skill gained.
- Designing a dynamic classroom using technology requires teachers to provide a learning environment that is colorful, engaging, exciting, interactive and energetic as a way of encouraging students to venture into the world of technology and to discover knowledge for themselves. (2006)

Choosing the type of technology we will use also calls for a systematic approach and there are models for making those choices as well. For example, Tony Bates developed the SECTIONS model. According to Bates, when choosing technology for their courses faculty need to consider

The SECTIONS model (Bates, 2015)

These are just two examples of methodical methods we can employ to design our courses *if* we are given opportunities to explore the necessary resources, attend workshops/seminars, and access exploratory training opportunities, all of which should be a part of institutions' plans, opened up to us, and paid for by them when their expectations are quality, faculty-implemented, online and supplemented face-to-face courses.

**Web 2.0**

"Web 2.0," coined by Tim O'Reilly and Dale Dougherty, led to the formation of 2004's "Web 2.0 Summit." But what does Web 2.0 actually mean? The term has been used indiscriminately and often in ways not intended. For the purposes of this discussion, the significant difference between Web 2.0 and "Web 1.0" (not known as such at the time) is that the latter's websites were owned by relatively few and information was simply transmitted to users and the former's allow anyone to be part of the production of material found on the web. No longer are web surfers passive viewers, they are creators of information through the use of blogs,

wikis, social media etc. (Handsfield, Dean & Cielocha, 2009). Web 2.0 tools abound; the possibilities are endless and they *are* educational technology. They should be thought of and implemented as such. Clearly, then, educational technology training is about more than the LMS: there is a lot more instructors can do and their students expect more. Hence, faculty need to know not only what tools are out there, but how to choose the appropriate tool, how to use it to facilitate communities of learning, and when to leave it alone. Daher and Lazarevic (2014) conducted a study on faculty members' lack of use of Web 2.0 tools and concluded the "lack of faculty training opportunities was identified as the main barrier for using Web 2.0 technologies" (p. 42).

## Web 2.0: Opportunities for Learning and Teaching

University of Georgia's Seung Won Park conducted a study on the uses and effectiveness of social networking websites in education. In it he notes

> Smith, Salaway, and Caruso (2009) surveyed over 30,000 college students in the United States and found that 90% of college students use SNSs [Social Networking webSites], and of these, 63% use them daily. Moreover, 40% of college students engage in content creation via other Web 2.0 tools including video-sharing websites (e.g., YouTube), wikis (e.g., Wikipedia), blogs, and podcasts. Given that this survey was conducted in 2009, the number of college students who use Web 2.0 technologies has by now increased" (2013).

Indeed, given Park's study was done in 2013, it can only be assumed this number has increased even more. These data clearly suggest students are ready and eager to use Web 2.0 tools; instructors cannot be expected to accommodate them, even adequately, without proper training. Park continues and gives several concrete examples of how Web 2.0 technology can improve student reading and engagement in online courses: Google Docs can be used for collaboration, blogging can be used for sharing reflections about a reading and interacting with peers and the community at large, Twitter in the classroom offers opportunities for the instructor to ask questions about a reading and require students to tweet a response, and Facebook can be used in much the same way while offering more in-depth responses.

Moreover, while the Web 2.0 toolbox is growing daily, keeping up can be daunting. For example, one committee member recently came across a site called Hypothes.is (For a demo, see BCCampus: https://edtech.bccampus.ca/2016/11/07/hypothesis-edtech-demo/). This tool allows individuals to annotate the web and share their annotations with others. Park's main

concern in his paper is with students' lack of reading and absorbing course material; Hypothes.is allows the instructor to assign readings on the web and require students to annotate and comment on the readings and on each other's annotations. The implications here are exciting, as are the implications of many Web 2.0 tools. And let's not forget YouTube, useful in a myriad of ways for learning and teaching, with both the students and the instructor contributing to course content.

If management wants us to create vibrant, constructivist, learner-centered courses using technology, they need to support us, stand aside, and allow us to help students actively create knowledge both individually and socially, and Web 2.0 is one way to facilitate this; indeed, by its very nature, it encourages collaboration, cooperation, and participation. That said, indiscriminately employing, let alone jumping on the Web 2.0 bandwagon, without proper consideration can be a painful experience for both students and instructors. While management may think that all we need is awareness and willingness, it is obvious *time and training* are even more necessary. As Trenda Boyum-Breen, president of Rasmussen College, states, "college and university leaders must invest in and use Web 2.0 technologies to benefit both students *and* faculty. Effective training must be part of this equation, so that faculty are not left alone to determine the value these tools may offer" (2017).

## Professional Development Funding

One could argue, of course that faculty have access to Professional Development (PD) funds and we  could choose to use those funds for this type of training. Indeed, the PSDC has spent considerable time surveying its members to create a spreadsheet comparing faculty access to PD funds across institutions. While the type and amount of funding varies, everyone does, indeed, have access to PD funds, and our survey shows all but one FPSE institution allows faculty to use those funds for training on educational technology. Nonetheless, we argue that professional development for the purposes of *training* in pedagogy and educational technology (particularly Web 2.0 tools) should be administrations' responsibility. In the same vein, the EPC's discussion about access to PD funding in collective agreements, notes "[s]ome agreements have scope for this support in the form of professional development, but the view of many Committee members was that the application of this was uneven at best and raised questions about whether PD funding should be used to provide support in this area. In this instance, the view was that education technology training and support should be in addition to regular PD support, not a substitute for PD." And, as noted above, the Sectoral Agreement does address this distinction but needs to be revisited and/or reinterpreted.

The EPC's discussion paper notes "system changes [to accommodate and make use of educational technology] might also be motivated by efforts to reduce operating costs within an institution in reaction to under-funding pressures from the provincial government," asking further "Is technology in our institutions used to help students explore and create in ways that were previously unavailable?  Or is the choice of technology in our institutions driven more by the priority of administrators who are trying to maximize student enrolments, minimize faculty costs and shift the infrastructure of the institution from 'bricks to clicks'".

## Conclusion

Moving to online teaching and learning is often seen as a cost-effective way to increase FTE's without the need for on-campus space; however, these cost savings must not be at the expense of quality and student/faculty stress. Training and ongoing support are paramount to our ability to offer true learner-centered communities. Therefore, we recommend the Common Agreement's Article 6.6 be revisited in order to refresh its language, ensuring we are trained in pedagogically sound design approaches and up-to-date in the best employed Web 2.0 tools. We also urge our local bargainers to refresh their efforts in the next round to secure an administration commitment that the rapidly changing area of educational technology will be addressed more often than just in bargaining years. And, ultimately, we, as FPSE Professional and Scholarly Development Committee members, hope to have refreshed your interest in creating the best possible courses, whether online or face-to-face, technologically supplemented.

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