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Keywords
Faculty certificate program, University of British Columbia, Scholarship of teaching and learning, Action research, Peer classroom observations

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Abstract

The paper presents a personal reflection on the Faculty Certificate Program (FCP) in Higher Education at the University of British Columbia and its impact on one of the program participants – a university instructor of large introductory physics courses. FCP provided the instructor with much needed support in her quest to redefine and revisit a large first year physics course via developing a scholarly approach to teaching, breaking the interdepartmental and inter-faculty barriers and eventually becoming a part of a larger Scholarship of Teaching and Learning community.

A few days ago I found myself in a quiet university coffee house sipping coffee and talking to a University of British Columbia (UBC) pharmacy professor, about effective ways of teaching an introductory pharmacy course. This discussion stemmed from my colleague's concern that many second year pharmacy students seemed to be lost with the concept of drug solubility and its usage to determine the purity of drugs. As a result, he invited me to discuss multiple ways of teaching this concept via creating learner-centered activities focused on promoting student understanding of the concept and its applications in pharmaceutical practice. As he patiently tried to explain the concept to me, we started thinking of multiple ways of representing it, and eventually designed a short student activity using Excel spreadsheet.

This discussion would not be unusual, if not for the fact, that I am not a pharmacy expert. My area of expertise is physics education. So how did it happen that I was discussing this problem with the colleague not only from another department, but also from another faculty? The answer is simple: both my colleague and I decided to take part in a University of British Columbia Faculty Certificate Program on Teaching and Learning in Higher Education (Hubball and Burt 2005), which was initiated in 1998 and has been becoming more and more popular at UBC and in Canada ever since. A brief description of the Faculty Certificate Program (FCP) can be found on the website: http://www.tag.ubc.ca/news/featured/facultycertificate.php.

The first paragraph and specifically the phrase "scholarly approach toward teaching" caught my attention and made me want to read more about FCP and eventually to sign up to the program:

> There is a growing recognition of the increasing complexity of academic work, and of the need for university teachers to develop a scholarly approach toward their teaching.

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Today, one year later, as my FCP peers and I are getting ready for our graduation, I would like to reflect on the journey we undertook. It was clearly a group effort as none of us could travel the FCP road alone. The FCP program was aimed at creating an interdisciplinary community of practice aimed at "engaging faculty at all ranks in reflecting upon and initiating positive changes in curricula and pedagogical practices" (Hubball and Burt 2005). This reflective process, also referred to as scholarly approach to university teaching and learning, is "the key for understanding learning, developing responsive and integrated curricula, for enhancing the quality of student learning experiences, and for assessing which practices are effective in which circumstances" (Hubball and Burt 2005). It is worth mentioning that scholarly approach to university teaching is not synonymous with the scholarship of teaching and learning (SoTL). The latter is a broader concept which also includes dissemination of the results in peer-review contexts.

There is ample research exploring teaching communities of practice and different ways of promoting the scholarship of teaching and learning (Boyer 1990; Cross and Steadman 1996; Cunsolo, Elrick et al. 1996; Hubball, Clarke et al. 2004). However, in contrast to scholars studying communities of practice as outside observers (Wenger 1998), I would like to take a personal look at what this community of scholarship of teaching and learning means to me. I will outline how I benefited from the FCP program and how I hope my teaching and research have been affected by it. This is a personal note and it should be taken as such. I have no doubt that some of my FCP peers might hold different perspectives. My main goal here is to show how taking part in a program such as FCP helped me redefine and revisit my teaching practices; get involved in developing scholarly approaches to teaching via breaking the interdepartmental and inter-faculty barriers, and become a part of a larger university teaching and pedagogical research community. Additionally, the FCP encouraged me to think of dissemination of the results of my research to a larger community inside and outside of the university and as a result to move from the scholarly teaching to engaging in the scholarship of teaching and learning (Milner-Bolotin 2007; Milner-Bolotin, Kotlicki et al. 2007).

Lesson 1: Reaching Out to the University Teaching Community

> *The concept of a **community of practice** (Wenger 1998) refers to the process of social learning that occurs when people who have a common interest in some subject or problem collaborate over an extended period to share ideas, find solutions, and build innovations (www.wikipedia.org).*

I have been teaching introductory physical science courses at large research universities for many years. As I have always been interested in physics teaching and tried to stay abreast of current physics education research via attending physics education conferences, subscribing to newsletters and staying current with the physics education literature, I realized that I gradually became more and more isolated at my department. Too often the quality of university teaching is not given the attention it deserves, even though every year thousands of undergraduate students (who are mostly non-physics and often non-science majors) are required to take large introductory physics courses. As a result, faculty members who want to take a scholarly approach to science teaching too often become lonely and isolated.

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Many of them also do not hold tenure-track faculty positions and have limited departmental support.

FCP provided me with the opportunity to get connected with the faculty outside of my department who are also very interested in improving their teaching via taking a scholarly approach towards it. For instance, at FCP we had a chance to discuss issues such as conducting action research, creating a learning-centered syllabus, conducting assessment and evaluation of student learning, effective use of educational technologies, teaching large classes, university ethics, etc. Each one of these discussions was led by a few of the FCP cohort members with the help of the FCP facilitators.

In additional, the FCP leaders are all faculty members with many years of excellence in university teaching and backgrounds in education, psychology, business and educational leadership. For instance, Prof. Harry Hubball (Hubball and Burt 2005), who originally conceived and implemented the FCP, was recently awarded the 3M Teaching Fellowship – one of the highest teaching awards in Canada (http://www.mcmaster.ca/3Mteachingfellowships/2007/harry.hubball.html). These people, as well as many of my FCP peers, became an inspiration and support group for me in my own pursuit of excellence in university science teaching.

Lesson 2: Peer Classroom Observations

> *In general, we tend to teach the way we were taught ourselves. It is only after we become more comfortable with our teaching expertise, and more comfortable in our other roles as scientists, that some of us may begin to investigate alternate pedagogical approaches (Bonner 2004).*

The fact that many of us teach science or any other discipline the same way we were taught is not a surprise. This would not be a problem if the students we teach were similar to us: we turned out to be OK, so why wouldn't they? The problem, however, is that many of us teach undergraduate courses to students who are very different from who we were at their age. As for myself, I teach large undergraduate physics courses to hundreds of students (my average class size is 200 students) who are not planning to becoming physicists and take this course only because it is a required one. The majority of my students are hoping to pursue a life science education and become doctors, pharmacologists, biomedical scientists, etc. Nevertheless, most introductory physics courses are taught from a "future physics major" perspective. Even when we try to make undergraduate courses more relevant to the students, we still look at them through the physicist's lens. Rarely do we have an opportunity to invite a colleague from outside of the department to visit our class and provide us with constructive feedback.

The FCP did just that. One of the assignments was to pair up with a colleague from a different faculty and visit each other's classes. The goal was to help each other improve our teaching via having a peer who can take a step back and look at our teaching as an educator, but not as an expert in our field. We would meet and discuss the class before the observation period, then one of us would visit a class taught by a colleague and, if possible, videotape the class. A few days later we would meet again to debrief what happened. By that time each one of us would have

written a reflection on the peer classroom observation we just experienced. These classroom visits were the highlights of the FCP for me as I got to observe excellent teaching across the disciplines and learn how to give constructive feedback to a colleague. Additionally, I was able to invite a few colleagues to observe my teaching and provide me with very valuable feedback.

Lesson 3: Conducting Classroom Action Research

> *Classroom research involves systematic and scholarly inquiry into the nature of learning – specifically into the nature of learning English, or math, or psychology, or any other subject in which faculty have become lifelong learners. Dedicated college teachers have much to gain – and much to contribute – to the advancement of teaching as a profession through the scholarship of discovery in teaching and learning. (Cross and Steadman 1996)*

Conducting action research was probably one of the most exciting parts of the FCP. Each one of us was required to design and implement a small action research project to address one of the problems we encounter in our teaching practice. The goal of this action research was not only to try and solve the problem itself, but to think how we can apply what we know about learning to a real classroom situation and how we can assess if this new teaching method makes a difference in student learning.

The process of conducting action research is new to many faculty members and the FCP provided us with invaluable opportunity to learn how to conduct it in a supportive environment. The projects of FCP cohort members varied in content and in scope. However, we all had a chance to take a closer look at our teaching practice. This project forced us to think about our teaching in a manner similar to how we think about our research. This is a major shift for the majority of the university faculty (and I am not an exception), as very few of us have done a thorough investigation of the effectiveness of our own teaching methods and even fewer have taken the time to disseminate the results to the wider community.

For example, my action research project was aimed at investigating the effectiveness of modern educational technologies, such as Logger *Pro* (Vernier Technology 2006), which allow live data collection and analysis. More than a year ago my colleagues and I decided to replace traditional lecture demonstration in a large introductory physics course with Interactive Lecture Experiments (Milner-Bolotin, Kotlicki et al. 2007). During the FCP I collected quantitative and qualitative data on student use of this technology, their academic achievement, and their attitudes toward science. Currently I am working on analyzing the data and writing a paper to disseminate the results.

Conclusions

Reflecting on our year long FCP experience, I cannot help noticing that FCP allowed us to get to know many wonderful college and university faculty from our campus and from across Canada who are interested in improving their teaching. One of these faculty members is a UBC Pharmacy Professor who is as passionate about his students' understanding of basic pharmaceutical concepts as he is about his

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pharmaceutical research. The fact that there are so many of us who do want to make a difference in students' lives via rethinking and revisiting our pedagogical practices, sharing our teaching experiences with colleagues and taking a scholarly approach to university teaching is very encouraging. During this journey, the program participants not only had a chance to rethink our own teaching practices, through sharing them with others via peer led workshops, presentations, classroom visits and online discussions, but also to confront our own insecurities and misconceptions about teaching and learning. Many of us for the first time in our academic careers came to realization that teaching is not a "knack" or automatically done reasonably well when one gets advanced degrees in one's discipline, but that teaching is a serious, difficult, sustained and sustaining intellectual work. As a result, we gradually started looking outside of our own classrooms contributing to the teaching of our colleagues. FCP helped us see teaching in a new light which led many of us directly to realizing and recognizing that SoTL is a real scholarship involving real research and the development of a real literature and body of growing knowledge.

I know FCP influenced my thinking about SoTL and my role in it. Along the way, I noticed a difference FCP made in my colleagues' views on teaching and learning and how they perceive their own roles in the process of redefining the institutes of higher learning in the 21st century. "The journey of a thousand miles begins with a small step", says an ancient Chinese proverb. I strongly believe that the FCP helped many of us to get started on our personal journey on the road not only to effective, reflective, meaningful and scholarly university teaching but to the real Scholarship of Teaching and Learning.

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References

Bonner, J. J. (2004). "Changing Strategies in Science Education." Science **306.**(5694): 228.

Boyer, E. L. (1990). Scholarship Reconsidered: Priorities of the Professoriate. Princeton, NJ, The Carnegie Foundation for the Advancement of Teaching.

Cross, K. P. and M. H. Steadman (1996). Classroom Research: Implementing the Scholarship of Teaching. San Francisco, Jossey-Bass Publishers.

Cunsolo, J. M., M. Elrick, et al. (1996). "The Scholarship of Teaching: A Canadian Perspective." Canadian Journal of Higher Education **26**: 35-56.

Hubball, H. T. and H. D. Burt (2005). "Scholarship of Teaching and Learning: Theory Practice Integration in Faculty Certificate Programs." Innovative Higher Education **30**(5): 327-344.

Hubball, H. T., A. Clarke, et al. (2004). Assessing faculty learning communities. Building faculty learning communities. M.Cox and L.Richlin. San-Francisco, CA, Jossey-Bass. **91:** 127-136.

Milner-Bolotin, M. (2007). Making your classes click: How to ask good clicker questions and get the most out of your teaching experience. University of British Columbia Technology Series: Office of Learning Technologies, UBC, Office of Learning Technologies, UBC.

Milner-Bolotin, M., A. Kotlicki, et al. (2007). "Can Students Learn from Lecture Demonstrations: The Role and Place of Interactive Lecture Experiments in Large Introductory Science Courses." Journal of College Science Teaching **January-February**: 45-49.

Vernier Technology (2006). Logger *Pro*. Portland, Oregon, www.vernier.com.
Wenger, E. (1998). Communities of Practice: Learning, Meaning, and Identity. Cambridge, England, Cambridge University Press.