

The Use of a D2L Website to Serve as the Central Hub of a Network for the Scholarship of Teaching and Learning (SoTL) in an Academic Department.

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Abstract

In response to a growing demand for accountability on all aspects of evidence-based teaching and on the totality of student learning and career outcomes, committed individuals (both faculty and staff) in the Department of Human Health and Nutritional Sciences at the University of Guelph have developed a network where interested faculty members, staff, and students can interact. The central online hub of this network is the K*T3net website, which was created in Desire2Learn, a widely used course management system. The features and potential uses of the K*T3net hub will be discussed.

Introduction

Over the past decade, there has been an increasing call for change in the way universities view and enact their teaching and research mandates. Within the teaching domain, voices at the local university and at the national/international levels have eloquently articulated the need for a more accountable, scholarly and learner-centered approach to undergraduate education. Within the research domain, the major Canadian research funding agencies (SSHRC, NSERC, CIHR) have made it clear that grantees are required to go beyond the discovery of knowledge and produce significant, accountable, scholarly activity in knowledge transfer and translation (mobilization/exchange).¹ The ‘slow explosion’ of change is underway at Canadian universities² and it is affecting the professional lives of all members of the university community.

These new dimensions of scholarship follow on the seminal work of Boyer, which called for an infusion of scholarship into all aspects of the professional lives of faculty at universities.³ While the proposed changes are highly desirable for the education of undergraduate and graduate students and for society at large, faculty (in the natural sciences disciplines in particular) are generally not trained in graduate school or post-doctoral activities to be competent in the scholarship of teaching and learning or of knowledge transfer and translation.⁴ With pressures

¹ Maureen Mancuso, “The Lighting of a Fire: Re-imagining the Undergraduate Learning Experience,” *Office of the Provost University of Guelph*, November 2005, <http://www.uoguelph.ca/vpacademic/whitepaper/whitepaper.pdf>. ; William M. Sullivan and Mathew S. Rosin, *A New Agenda for Higher Education: Shaping a Life of the Mind for Practice* (Princeton: The Carnegie Foundation for the Advancement of Teaching, 2008).

² Margaret A. Miller, “Editorial: The Slow Explosion,” *Change: The Magazine of Higher Learning*, (May/June 2012). ; Alistair J.S. Summerlee and Julia Christensen Hughes, “Pressures for change and the future of university education,” in *Taking Stock: research on teaching and learning in higher education*, ed. by Julia Christensen Hughes and Joy Mighty (Kingston: McGill-Queens University Press, 2010).

³ Ernest L. Boyer, *Scholarship Reconsidered: Priorities of the Professoriate* (Princeton, NJ: Carnegie Foundation for the Advancement of Teaching, 1991).

⁴ Pat Hutchings, Mary Taylor Huber, and Anthony Ciccone, “The Scholarship of Teaching and Learning, Professional Growth and Faculty Development,” in *The Scholarship of Teaching and Learning Reconsidered*, ed. by Pat Hutchings, Mary Taylor Huber and Anthony Ciccone (Stanford, CA: The Carnegie Foundation for the Advancement of Teaching, 2010). ; Carl Weiman, “Why not try a scientific approach to science education?” in *Taking Stock: research on teaching and learning in higher education*, ed. by Julia Christensen Hughes and Joy

mounting for rapid change in universities, how can existing faculty, staff and students, facilitate and guide that change? How can they create a multi-dimensional ‘learning commons’ at the grassroots level (in order to foster and support professional development in these new areas of scholarship) and have the institutional infrastructure and policies needed to encourage and reward this activity? ⁵

Traditionally, undergraduate curriculum committees, consisting of appointed faculty and student representatives, have served as the sole departmental vehicle for investigating, discussing and promoting the scholarship of teaching and learning (SoTL) within an academic department. However, with the universal demand for greater accountability on all aspects of evidence-based teaching and on the totality of student learning and career outcomes, some academic departments have encouraged the formation of additional organizations to support their SoTL mandate. In the Department of Human Health and Nutritional Sciences, the approach taken was to combine the interests of the faculty who had a previous interest in the ‘scholarship of knowledge translation and transfer’ (SoKTT) in the health sciences with those who had a developing interest in SoTL. These faculty members would then form the foundation of a ‘network’ which has been called the K*T3net. The central hub of the network is on a Desire2Learn (D2L) site, which is accessed by all faculty members in the net and by a growing number of staff and senior PhD students in the department. The features and potential uses of the K*T3net hub will be discussed in this paper.

Mighty (Kingston: McGill-Queens University Press, 2010). ; Raoul A. Arreola, Michael Theall, and Lawrence M. Aleamoni, “Beyond Scholarship: Recognizing the Multiple Roles of the Professoriate” (presentation, AERA Convention, Chicago, IL, April 21-25, 2003).

⁵ Julia Christensen Hughes and Joy E. Mighty, “A Call to Action: barriers to pedagogical innovation and how to overcome them,” in *Taking Stock: research on teaching and learning in higher education*, ed. by Julia Christensen Hughes and Joy Mighty (Kingston: McGill-QueensUniversity Press, 2010).

The K*T3net

The purposes and functions of the K*T3net are defined in the Founding Statement, which is made available to all members through the homepage of the online hub (Figure 1).

- A. The K*3net in the Department of Human Health and Nutritional Sciences is designed to support all department members who have some professional activities in research, scholarship or creative expression in the human health sciences that do NOT fall under the description of laboratory-based, discovery science. K*T3net includes the areas of translation, transfer and teaching of knowledge, skills and/or attributes in the health sciences with emphasis on the fields of nutritional and nutraceutical sciences and human kinesiology.
- B. The K*T3net is designed to link the Department activities in this broad domain to similar groups currently forming in other departments/colleges on the University of Guelph and University of Guelph-Humber campuses – and to national and international organizations that support and promote these aspects of the collective academic endeavour.
- C. The K*T3net is designed to foster excellence in these areas of research, scholarship and creative expression in the health sciences with emphasis on nutritional and nutraceutical sciences and human kinesiology.

Figure 1. Founding Statement of the K*T3net.

All faculty, staff and graduate students within the department who were involved or interested in SoTL or SoKTT research were invited to join K*T3net and new members are welcome at any time. The departmental chair, associate chair, graduate curriculum committee chair and undergraduate curriculum committee chair are members, in part to ensure that any consensus views from within the network activities and discussions can be readily made available to Department members who choose not to participate in the network. Interested academics from outside the department and/or outside of the University of Guelph, who share expertise in teaching nutrition and nutraceutical science (NANS), human kinesiology, or a closely related field, have also been added as members of K*T3net. Currently, the membership

of K*T3net includes faculty at the University of Guelph-Humber, York University and the University of Waterloo School of Pharmacy.

The Centre for Open Learning and Educational Support is the central organization of teaching support at the University of Guelph. It provides assistance with educational development and has a broad focus on SoTL. The Office of Research at the University of Guelph is the central organization of knowledge translation and transfer support for academic departments that do not have traditional extension divisions. It offers assistance in SoKTT, particularly to holders of tri-council and Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) grants. This office, along with the Centre for Open Learning and Educational Support, provide a great deal of general support in SoKTT and SoTL, however an ongoing issue for many faculty members is that they are often unable to attain discipline-specific support, and this can be a substantial barrier, especially for those who are new to this area of research. A goal of the K*T3net is to provide discipline-specific, local support to its members and the department, while still functioning within the overarching umbrella of the Centre for Open Learning and Educational Support and the Office of Research. The relationship of the K*T3net to central organizations which support SoTL and SoKTT is shown in Figure 2.

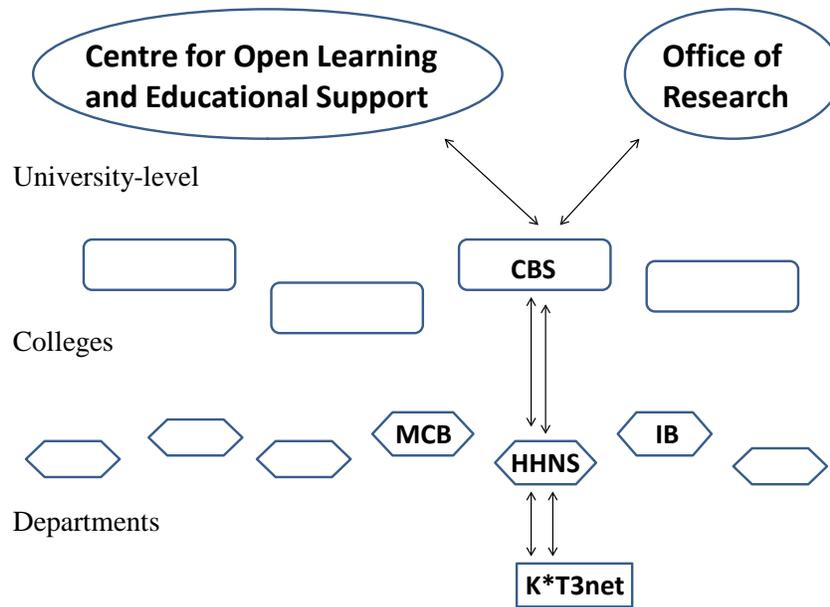


Figure 2. A) The administrative structure of educational development and support at the University of Guelph. B) The relationship of K*T3net to central organizations which provide support in SoTL research within the University of Guelph. MCB, Molecular and Cellular Biology; HHNS, Human Health and Nutritional Sciences; IB, Integrative Biology; CBS, College of Biological Sciences.

The D2L Network Hub

A D2L site was chosen as the hub of our departmental network. Desire2Learn (D2L) is a Learning Management System (LMS) used by over 650 institutions worldwide.⁶ It is typically used as an online management system for individual courses (ie. a course website). D2L was already in use as LMS for courses at the University of Guelph, however the use of a D2L site as a network hub is a novel application of the software system. The perceived benefits of choosing a D2L site as the hub for the K*T3 net are:

- Ease and speed of set-up (total estimated set up time 10 people hours)

⁶ Scout A. Cloud, "Desire2Learn," (presentation, VASS Virtual School Conference, Hampton, VA, May 8-9, 2012).

- No start up or maintenance costs, no space requirements
- Local professional support for the software application
- System sustainability (main use of the software is for UG classes)
- Faculty, staff and student familiarity with the system
- Large and flexible-format storage capacity for multi-year use
- System security for information storage and discussions
- Ability to give users varying types of access (read-only, etc).
- Ability to invite users who do not use D2L at their home institution

While many of the same benefits could be achieved through an open public forum, such as a wiki or Facebook, D2L offers several advantages which these public sites can not. The added security of a private site like D2L, into which all members must be invited by an administrator of the site, protects personal information and discussion topics from being accessed by outside persons. This exclusivity helps ensure that members of the network feel comfortable sharing information related to their teaching and research. While public forums do increase the potential of other like-minded individuals finding the site and becoming involved, this is still outweighed by the many above-mentioned benefits of D2L.

Features of K*T3net D2L Hub

When members first open the D2L homepage of the K*T3net, they have simple access to all components of the hub. Some components are accessible through links on a navigation bar (ie. discussion board, member list), however it was the goal of the founding members to make the majority of the content available directly on the homepage (Figure 3). The founding statement of K*T3net is posted centrally on the homepage, and it includes the aims as well as a

link to the initial presentation proposing the network. The presentation provides a more detailed description of all that the network encompasses and is a useful tool for new members to learn of the network's origins and objectives. The new universal learning outcomes proposed by the University of Guelph are also posted in this section of the homepage as they are an important resource which faculty and students may wish to refer to often, and also serves as the basis for the objectives of K*T3net.

Figure 3. K*T3net homepage.

Although there is a link in the navigation bar to the Content section of the site, this was also linked directly to the homepage so members can easily access new postings (Figure 3), as this was considered to be one of the most important components of the site. The details of the Content section are discussed in further detail below (see Content).

The final components of the homepage are the widgets for online news feeds regarding SoTL and SoKTT. We have used these widgets previously in undergraduate courses to provide news updates in relevant areas to biology students. The widgets are direct links to news feeds

from education websites and are immediately updated when a new story is posted to the host site. At the time of publication there were two widgets on the K*T3net homepage: 1) The Chronicle of Higher Education, and 2) University Affairs. These widgets were added to keep K*T3net members aware of breaking news in higher education and occasionally provide interesting topics for discussion within the network.

Content/Data Storage. The Content section is subdivided into different topics, such as SoTL, KTT, and quotes, to make posting and retrieving information as simple as possible. All members are able to post content and this can include journal articles, conference proceedings or any other information that they find useful or interesting. As the site grows, the Content is further subdivided to allow more areas of interest to be added and easily accessed by members. For the more integrative topics, such as the Quote Garden, simple word documents are set up chronologically and members can open the document, add their new information, and repost, after which all members will see the updated version of the document when they enter the site. This was thought to be a more user-friendly method than adding a separate document for each quote since members can open the document and read a month's worth of information quickly instead of opening several separate documents.

Also included in the Content section is a single page document known as the Research Cloud. This document provides an organized subset of lists of the peer-reviewed journals currently in existence in several different areas of SoKTT and SoTL, including those with a very broad scope as well as those that are specific to science and health-related disciplines. This is meant to provide an initial picture of the information available, as well as where one could publish, for those members who are relatively new to this area of research.

Discussion Board. The Discussion Board is accessible through a link on the main navigation bar from the homepage. It is divided into Forums, each of which is focused on a specific area of discussion. Within each Forum, Topics are created and these represent each separate discussion that is taking place. Within a Discussion Topic members can post a new comment or reply to someone else's and these appear as either separate (new thought/comment) or combined (reply to a comment) threads (Figure 4). Importantly, a feature of D2L allows members to comment anonymously, meaning that no other member can see who made that specific comment. We felt this was an important component of K*T3net as many of the members are supervisors, students or colleagues to several other members, and it was assumed that certain topics of discussion may arise where members may not feel comfortable attaching their identity to a comment. Thus the option of posting anonymously was determined to be invaluable to encourage an open environment where all members felt safe and comfortable sharing their thoughts.

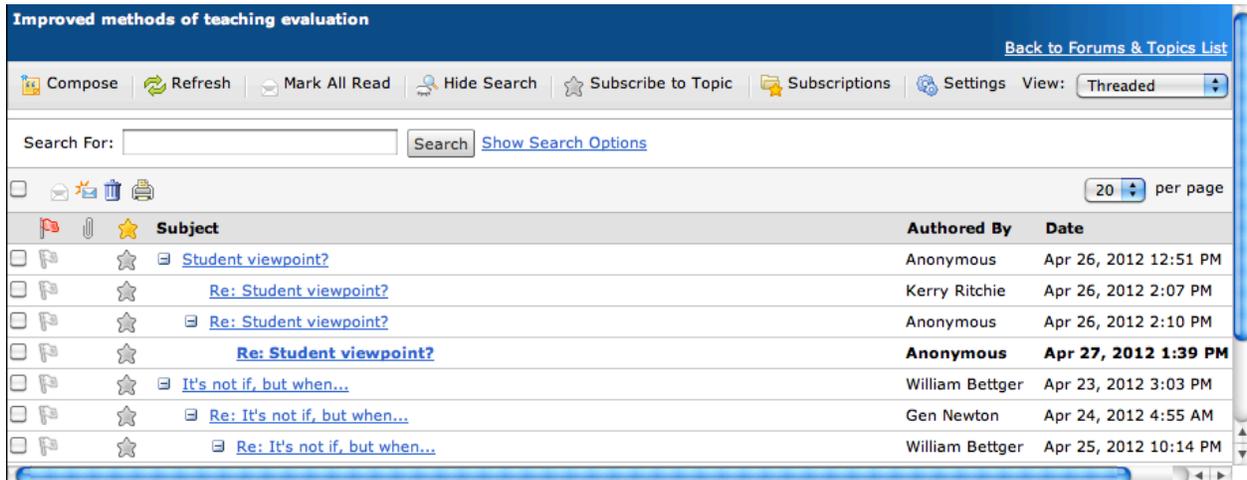


Figure 4. A discussion board thread on the K*T3net online hub in Desire2Learn.

Member Credentials, Activities and Ongoing Projects. Under the “Classlist” section of the D2L hub is the roster of members of the K*T3net along with their e-mail addresses and their ‘access level’ on the D2L site. Under the ‘Blog’ section of each individual listed on the ‘Classlist’, each member is being asked to place a short biographic sketch, followed by an indication of examples of completed projects and a list of ongoing and planning-stage projects in SoTL and/or SoKTT. This is designed to help the members of the K*T3net become more comfortable in reporting and promoting their activities in these domains; faculty traditionally do not report all of their activities in SoTL and SoKTT on their faculty activity report for tenure and promotion. Listing ongoing and planning stage projects will also encourage and indirectly facilitate collaboration between network members.

Level of Access. The traditional use of D2L is as a course website, therefore the levels of access are organized by different levels of the teaching team as well as students and guests. All members of K*T3net were given teaching assistant-level access, meaning they are able to post and retrieve material in the Content section, create Discussion Board topics and comment on all Discussions. Two of the founding members were given instructor-level access, allowing them to alter the physical design of the site and add new members. They are also able to remove Discussion Board postings if necessary. This extra level of control was assigned to only two members as a means of maintaining the organization of the site as well as security. In the fall of 2012, MSc students and senior undergraduate students in a SoTL/SoKTT course will be given student level access (can post to the Discussion, but can not create new Forums or Topics) to the D2L hub.

Applications of the D2L hub/K*T3net

The D2L hub of the K*T3net has been operational for approximately 6 months at the time of publication. A number of developments over this time period suggest that the hub is serving successfully as a local ‘teaching commons’ for SoTL and SoKTT. As a result of the growing interest in SoTL and SoKTT in HHNS, a new undergraduate course has been developed which will allow senior undergraduate students to conduct independent scholarship in these areas.⁷ The course, called ‘Teaching, Learning and Knowledge Transfer’ will be an elective, upper year course and all students in the course will be invited to become members of K*T3net and have read-only access (student level) to the D2L hub. Another novel use of the D2L hub is that students will be able to continue as members for the K*T3net, and have access to the hub, for an extended period of time after completing the course. A graduate course is also being developed, as there is a rapidly expanding group of graduate students in the department who are involved in SoTL and SoKTT research.

The K*T3net has taken on several other functions since its inception. It has a central role in departmental projects on learning to ‘Bloom’ (evaluate according to Bloom’s taxonomy) examinations and other evaluative tools in the undergraduate classes of the department.⁸ It is sponsoring a departmental effort to define ‘creativity’ (Martin, 2010 and Sternberg, 2012), in the fields of nutritional and nutraceutical sciences and of human kinesiology.⁹ Outcomes of both of these activities will be posted and stored on the D2L hub. An announcement has been posted on

⁷ Mary Taylor Huber and Pat Hutchings, *The Advancement of Learning: Building the Teaching Commons* (Princeton: The Carnegie Foundation for the Advancement of Teaching, 2005).

⁸ Benjamin S. Bloom, *Taxonomy of Educational Objectives: The Classification of Educational Goals* (New York: David McKay, 1956). ; Angie O’Neill, Gülnur Biroland, and Carol Pollock, “A Report on the Implementation of the Blooming Biology Tool: Aligning Course Learning Outcomes with Assessments and Promoting Consistency in a Large Multi-Section First-Year Biology Course,” *The Canadian Journal for the Scholarship of Teaching and Learning* 1, no.1 (2010).

⁹ Paul Martin, editor, *Making Space for Creativity* (Brighton: Creativity Centre, University of Brighton, 2010). ; Robert J. Sternberg, “Commentary: Teach Creativity, not Memorization,” *The Chronicle of Higher Education*, July 28, 2012, <http://chronicle.com/article/Teach-Creativity-Not/124879/>.

the D2L site stating that network members are willing to help serve to evaluate research/scholarship in SoTL and SoKTT, including pre-reviewing manuscripts and grants that will be submitted. Members can also help review the scholarship quality of submissions in SoTL and SoKTT during tenure and promotion deliberations.

In addition to helping disseminate best practices within the department for teaching and outreach purposes, the K*T3net will also help guide collaborative research projects in SoTL and SoKTT. Joint applications for research projects are currently being prepared by network members. Through the constant provision of new information and the involvement of members in discussions, new ideas and hypotheses are generated in this learning commons. It appears the K*T3net can provide the basic information and virtual environment for faculty, staff and students to move forward in research and scholarship as they strive to become ‘expert teachers’ in the classroom and beyond.¹⁰

¹⁰ Thomas Carey, “Three perspectives on Teaching Knowledge: Craft, Professional, and Scientific,” in *Taking Stock: research on teaching and learning in higher education*, ed. by Julia Christensen Hughes and Joy Mighty (Kingston: McGill-Queens University Press, 2010).

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