Revue internationale des technologies en pédagogie universitaire
International Journal of Technologies in Higher Education

Student evaluation of teaching enhances faculty professional development

Betty McDonald

Volume 10, Number 3, 2013

Special issue on Web 2.0

URI: https://id.erudit.org/iderudit/1035579ar
DOI: https://doi.org/10.7202/1035579ar

See table of contents

Publisher(s)

CRIFPE

ISSN

1708-7570 (digital)

Explore this journal

Cite this article

McDonald, B. (2013). Student evaluation of teaching enhances faculty professional development. *Revue internationale des technologies en pédagogie universitaire / International Journal of Technologies in Higher Education*, *10*(3), 57–75. https://doi.org/10.7202/1035579ar

Article abstract

This paper highlights the role of Web 2.0 technologies in sourcing ongoing information from university students in an effort to assist faculty in their continuous professional development (PD), with the ultimate goal of incrementally improving teaching and learning. On a semester basis, students use an online program called CoursEvals to provide their opinions about the course and its instructor. The collected data are used to inform the content and delivery of faculty PD workshops. The interactive nature of CoursEvals, with Web features that facilitate information sharing and interoperatibility with Blackboard, a learning/course management system, make it ideal for impacting higher education. Students can complete student evaluation of teaching (SEOT) online from any location (university, home, mobile, or overseas). This paper underscores the interactive nature of the feedback process that allows faculty, administration, policy makers, and other stakeholders to participate in the ongoing improvement of teaching and learning. We see how Web 2.0 technologies can impact the teaching/learning nexus in higher education, how online forums and Blackboard bulletin boards have helped popularize Web 2.0 technologies, how online social interactions have escalated through wikis, blogs, emails, instant messaging, and audio and video clips, and how faculty can retrieve their personal SEOT at any time and use the information to self- or pee-evaluate at their convenience. Faculty can compare their SEOT over time to determine stability and monitor their classroom effectiveness. They can also address reliability and validity issues and use the information judiciously without making unnecessary generalizations. Researchers will find useful information supporting the impact of Web 2.0 technologies in higher education.

Student evaluation of teaching enhances faculty professional development

Betty **MCDONALD**
University of Trinidad and Tobago,
betmcdee@gmail.com

Abstract

This paper highlights the role of Web 2.0 technologies in sourcing ongoing information from university students in an effort to assist faculty in their continuous professional development (PD), with the ultimate goal of incrementally improving teaching and learning. On a semester basis, students use an online program called CoursEvals to provide their opinions about the course and its instructor. The collected data are used to inform the content and delivery of faculty PD workshops. The interactive nature of CoursEvals, with Web features that facilitate information sharing and interoperatibility with Blackboard, a learning/course management system, make it ideal for impacting higher education. Students can complete student evaluation of teaching (SEOT) online from any location (university, home, mobile, or overseas). This paper underscores the interactive nature of the feedback process that allows faculty, administration, policy makers, and other stakeholders to participate in the ongoing improvement of teaching and learning. We see how Web 2.0 technologies can impact the teaching/learning nexus in higher education, how online forums and Blackboard bulletin boards have helped popularize Web 2.0 technologies, how online social interactions have escalated through wikis, blogs, emails, instant messaging, and audio and video clips, and how faculty can retrieve their personal SEOT at any time and use the information to self- or pee-evaluate at their convenience. Faculty can compare their SEOT over time to determine stability and monitor their classroom effectiveness. They can also address reliability and validity issues and use the information judiciously without making unnecessary generalizations. Researchers will find useful information supporting the impact of Web 2.0 technologies in higher education.

Keywords

Web 2.0; technology, higher education, student evaluation of teaching, CoursEvals, computers

Résumé

Cet article met l'accent sur le rôle des technologies du Web 2.0 dans la recherche permanente d'information auprès des étudiants à l'université pour appuyer les professeurs dans leur perfectionnement professionnel (PP) continu, dans le but ultime d'améliorer progressivement l'enseignement et l'apprentissage. Chaque session, les étudiants utilisent un logiciel en ligne appelé CoursEval pour donner leur avis sur le cours et sur le professeur. Les données collectées servent à alimenter le contenu et le déroulement des ateliers PP. La nature interactive de CoursEval – dont les fonctionnalités Web facilitent le partage de l'information et l'interopérabilité avec Blackboard, un système d'apprentissage/gestion de cours – en fait un outil idéal pour assurer un impact sur l'enseignement supérieur. Les étudiants peuvent remplir une évaluation de l'enseignement par les étudiants (EEPE) en ligne, n'importe où (à l'université, chez eux, sur leur portable, à l'étranger). Cet article souligne la nature interactive du processus de rétroaction qui permet aux professeurs, aux administrateurs, aux décideurs et autres intervenants de participer à l'amélioration continue de l'enseignement et de l'apprentissage. Nous observons comment les technologies du Web 2.0 peuvent avoir un impact sur le lien entre l'enseignement et l'apprentissage dans l'enseignement supérieur, comment les forums en ligne et les babillards Blackboard ont mis les technologies du Web 2.0 en vogue, comment les interactions sociales en ligne ont augmenté par le biais des wikis, des blogues, des courriels, de la messagerie instantanée et des extraits vidéo et audio, et comment les professeurs peuvent accéder à leurs EEPE en tout temps et utiliser l'information pour l'autoévaluation ou l'évaluation des pairs comme il leur convient. Les professeurs peuvent comparer leurs EEPE au fil du temps pour en déterminer la stabilité et contrôler l'efficacité de leurs classes. Ils peuvent aussi traiter les questions de fiabilité et de validité, et utiliser l'information judicieusement, sans faire de généralisations inutiles. Les chercheurs trouveront des informations utiles confirmant l'impact des technologies du Web 2.0 dans l'enseignement supérieur.

Mots clés

Web 2.0 ; technologie ; enseignement supérieur ; évaluation de l'enseignement ; CoursEvals ; ordinateurs

Introduction

Since the 1950s, educational technology research has been debating the pros and cons of the usefulness of computers in enhancing the teaching/learning nexus. After five decades, the time has come to evaluate the impact of Web 2.0 technologies in enhancing the teaching/learning nexus in higher education (HE). A quick glance at a tag cloud, word cloud, or weighted list with Web 2.0-related terms reveals the multiplicity of common uses of Web 2.0 technologies. Blogs, folksonomy, wikis, audio, video, mashups, hosted services, Web standards, standardization, RSS, CSS, microformats, accessibility, podcasting, social software, sharing, collaboration, perpetual data, and AJAX are just a few of the many terms displayed in the Web 2.0 tag cloud. This visual representation provides some idea of the significant impact Web 2.0 technology continues to have on HE.

Web 2.0 was first used in January 1999, at the close of the 20th century, by an information architecture consultant. The term "Web 2.0" is considered to be the one millionth English word, according to Global Language Monitor, a US Web monitoring firm that searches the Internet for newly formed words and recognizes those that have been used at least 25,000 times. The first Web 2.0 conference was hosted in 2003. The focus was on software applications being built on the Web as opposed to the desktop, representing a migration from customer consumption to customer creation. In other words, participants on a Web 2.0 site operate as prosumers rather than consumers. This means that participants are creators, and not merely passive recipients of-

content that was already created for them. They generate content in the form of ideas, text, videos, audios, pictures, and so on.

Shirky (2008) posited that the key characteristic of all these social media practices is "mass socialization," whereby the power of the collective actions of online user communities rather than individual users is harnessed. Social media are Internet applications characterized by openly shared digital content that is authored, critiqued, and re-configured by many users. This allows users in higher education settings to converse and interact with each other in order to create, edit, categorize, label, recommend, and share new forms of textual, visual, and audio content. Tapscott and Williams (2007) affirm that young people "are not content to be passive consumers, and increasingly satisfy their desire for choice, convenience, customization, and control by designing, producing, and distributing products themselves" (p. 52).

Halpin and Tuffield (2010) contend that, from the outset, "The Web has always been social." As far back as the early 1970s, Shirky claimed that Internet applications allowed users to exchange messages with each other, maintain personal profiles, curate lists of 'friends', and write blog-like journal entries. Moreover, he insists that the current generation of social media applications is completely distinct from those of the earlier Internet in terms of scale of use. He elaborated that contemporary social media are used by hundreds of millions of users: Facebook's figure exceeds 500 million, contrasting sharply with the Web tools of even ten years ago. Shirky further asserts that "the social media of the 2010s now boast a sufficient critical mass of users and applications to be of genuine collective benefit and social significance" (p. 2). Christakis and Fowler (2009) concur that "As part of a social network, we transcend ourselves for good or ill and become a part of something much larger" (p. 30).

Subrahmanyam and Šmahel (2011) observed that social media are associated with an increasing tendency for young people to multitask, to rely on a 'digital juggling' of daily activities and commitments. Shirky observed that social media technologies are also associated with enhanced social autonomy, since young people now have greater "control over the nature and form of what they do, as well as where, when and how they do it" (p.2). By extension, Web 2.0 technologies allow users enhanced capacity to self-organize and provide for themselves, thereby empowering them significantly.

Today, faculty can connect with their students in higher education settings, especially when they use social networking sites to support the university lifestyle through online interactions with peers and faculty (Yu et al., 2010). The university studied by Yu et al. maintains profiles and groups on its Facebook site, where students and faculty interact as they share resources and express opinions on various facets of the courses being offered. This partially confirms Mason and Rennie's (2007) observation that "shared community spaces and intergroup communications are a massive part of what excites young people and therefore should contribute to [their] persistence and motivation to learn" (p. 199).

The business models of Netscape and Encyclopedia Britannica Online are associated with Web 1.0: the makers created software, updated it periodically, and distributed it to end users. In contrast, Web 2.0 models, such as Google and Wikipedia, focused respectively on linking Web pages and providing perpetual, ongoing information from contributors.

The following figure illustrates some ways in which Web 2.0 differs from Web 1.0.]

Web 1.0		Web 2.0
DoubleClick	-->	Google AdSense
Ofoto	-->	Flickr
Akamai	-->	BitTorrent
mp3.com	-->	Napster
Britannica Online	-->	Wikipedia
personal websites	-->	blogging
evite	-->	upcoming.org and EVDB
domain name speculation	-->	search engine optimization
page views	-->	cost per click
screen scraping	-->	web services
publishing	-->	participation
content management systems	-->	wikis
directories (taxonomy)	-->	tagging («folksonomy»)
stickiness	-->	syndication

Source: http://oreilly.com/web2/archive/what-is-web-20.html

Figure 1: Comparison of Web 1.0 and Web 2.0

Student Evaluation of Teaching

For the past century, higher education institutions have asked students to submit their evaluations of courses (d'Apollonia & Abrami, 1997; Dommeyer, Baum, Chapman, & Hanna, 2002; Layne, DeCristoforo, & McGinty, 1999; Richardson, 2005; Shevlin, Banyard, Davies, & Griffiths, 2000). The main objective was to get students' feedback on teaching and instruction (Centra, 1977, 1993; Cohen, 1981; Koon & Murray, 1995; Marsh, 1984; 1987; Marsh & Dunkin, 1992; McKeachie, 1990; Murray, Rushton, & Paunonen, 1990; Ramsden, 1991; Seldin, 1984; 1993). Marsh (1987, 2007) emphasizes the validity of student evaluation of teaching due to the established relationship between perceptions of course effectiveness and actual learning outcomes.

Traditionally, students' have used paper-and-pencil formats to evaluate teaching. Yet this technique [gives rise to] many biases, such as not incorporating the ratings and opinions of absentee students who did not fill out the questionnaire the day it was administered (Becker & Watts, 1999; Layne, DeCristoforo, & McGinty, 1999). In addition, the teacher is usually present during the evaluation, resulting in potential bias (Layne, DeCristoforo, & McGinty, 1999). In light of this, an online system of student evaluations may provide higher education institutions with a number of potential added values over the paper-and-pencil method.

Study Context and Research Objectives

The main priority of the Caribbean National University is to provide students with effective teaching, research, and development programs for socioeconomic and technological development in a high-quality learning environment. This entrepreneurial institution was established to keep pace with the growing industrial needs of the country. Its vision is to equip its graduates with metaskills to enable them to take the helm in using and developing new and emerging global technologies. Accordingly, university would be prepared to start and maintain companies for sustainability and overall enhancement of the lifestyle of the general populace. In keeping with its vision and mission, the institution offers a range of certificates and diplomas as well as undergraduate, graduate, and professional education courses in a variety of programs, including education, engineering, information and communication technology, biomedical sciences, agriculture and food technologies, performing arts, maritime studies, fashion and design, criminology, health administration, and sports management. In an attempt to achieve the highest quality of learning experience that promises to revolutionize the way citizens achieve the aforementioned goals, each student is invited to evaluate both the course and its instruc-

tor through the medium of online student evaluation of teaching (SEOT). Students are expected to truthfully express their views in an atmosphere of confidentiality and anonymity regarding the organization and effectiveness of the curriculum and its delivery.

In support of the university's goal to deliver programs of the highest quality that connect learners and teachers in an interactive learning community, a learning center was established, with responsibility for all teaching and learning activities at the university.

Continuous monitoring of teaching and learning activities requires ongoing feedback from students through a centralized SEOT system designed to standardize activities across the various programs. Using SEOT feedback, the center provides professional development (PD) opportunities intended to prepare faculty to teach in a networked world, effectively utilizing both virtual and physical learning environments equipped with the required technological infrastructure.

Supporting learners across its several campuses and satellite stations through videoconferencing and WIFI facilities, the learning center utilizes a range of state-of-the-art Web 2.0 technologies in HE as a core feature of its operation. The university provides wireless access across its many campuses to support mobile applications. It continually liaises with the information and communication unit to support online electronic communities inside and outside the country with a range of services, particularly social computing technologies.

This gives rise to a number of compelling questions:

- How has the use of social computing technologies impacted student learning and teaching at this university?'
- In what ways are instructors using Web 2.0 to engage learners within and outside their classrooms?

The center's activities range from delivering asynchronous and synchronous courses by means of distributed delivery and face-to-face teaching to supporting online forums and Blackboard bulletin boards. The center's instructors demonstrate how online communication can be leveraged through videoconferencing, social networking, wikis, blogs, emails, webinars, instant messaging, and audio and video clips. Web 2.0 technologies are made available in learning spaces that encourage innovation and entrepreneurship in an ever-changing technological environment.

Student Evaluation of Teaching (SEOT) System

SEOT is a uniform, university-wide system for student feedback on academic instruction for all its programs. SEOT is an integral part of the cyclical educational process. It incorporates all the areas of curriculum, pedagogy, learning, and assessment, because it requires respondents to give feedback on not only the areas, but also the processes involved.

Regardless of academic rank, the teaching performance of all faculty members is subject to evaluation by self, peers, and students. Accordingly, SEOT is administered in every course section at the university every time a course is offered, which would have been excessively inefficient without Web 2.0 technologies.

SEOT is considered part of an overall teaching evaluation system, which includes ongoing faculty self-assessment, peer assessment, and student assessment. At the core of all SEOT operations is the Web, which generates valid and reliable data for personal and institutional use. Prior to 2009, individual programs used their own evaluation instruments and retained their results independently. A paper-based software called *Remark* and a web-based software called CoursEvals were simultaneously piloted in 2009. Both software applications may also be used for a variety of surveys other than SEOT. The aim was to transition all programs online, since the paper-based procedure was time-consuming and un-

sustainable. Nevertheless the paper-based option proved expedient for campuses that were experiencing connectivity issues at that time.

This university-wide SEOT ensures that students have an optimal learning experience: instructors are advised about the effectiveness of their teaching, and they receive ongoing suggestions for improvement. Additionally, administrators and other stakeholders are informed about the overall quality of courses and instructor performance. To summarize, the major goals of the SEOT are to:

- promote continuous improvement in students' learning experience
- promote continuous integration of new ideas and effective pedagogy into courses, programs, and curricula
- encourage and support both scholarly teaching and the scholarship of teaching and learning through continuous feedback
- develop, implement, and assist in novel instructional approaches and methods
- cultivate an institutional climate that values, rewards, and renews teaching excellence
- provide the university with information about the quality of learning and teaching
- provide the university with additional information for merit, salary, and promotion decisions.

Mandatory for all university courses and student-centered, the online SEOT instrument comprises statements for which students rate their degree of agreement: strongly agree, agree, neutral, disagree, and strongly disagree. The statements are organized into two categories: course and instructor. The nine course statements address the **clarity and achievement of learning objectives** ("The learning objectives of this course were largely achieved," "The learning objectives of this course were made clear at the beginning of the semester"); **deeper understanding of the subject matter as a result of the course** ("I have a deeper understanding of the subject matter as a result of this course"); **organization of the course** ("The course was well organized"); **use of a variety of instructional aids** ("A variety of instructional aids were used to help internalize the course content (e.g., reference materials, online resources, field visits, laboratory work, handouts, activities, etc.)"); **pace of coursework** ("The course was paced in a reasonable manner to facilitate the learning process"); **variety of assessments** ("Various forms of assessment were used to arrive at the final grade (for example, essays, examinations, quizzes, group work, projects, assignments, self & peer assessment, etc.)"); **relationship of assignments and examinations to course content** ("Assignments and exams were related to course content"); and **recommendation of the course to others** ("I would recommend this course to other students").

In addition to these closed-response statements, three open-ended questions ask students to write what they liked best about the course, what they liked least about the course, and recommendations for improvement along with additional comments about the course. Seven instructor statements address **preparation for the class** ("The instructor was well-prepared for class"); **clear and effective instructor presentation** ("The instructor presented content clearly and effectively"); **instructor treatment of student with respect** ("The instructor treated me with respect, and was pleasant and approachable"); **instructor availability** ("The instructor was readily available to students outside of class"); **instructor use of a variety of teaching techniques to appeal to different learning styles** ("A wide variety of teaching techniques were used to appeal to different learning styles"); **fair award of grades** ("Grades were awarded fairly"); and **useful and timely feedback on all examinations and assignments** ("Useful and timely feedback was provided on all exams and assignments"). Three open-ended questions address instructor strengths, areas for instructor improvement, and additional comments about the instructor.

Respondents can complete the SEOT online from any location (university, home, mobile, or overseas) using Web 2.0 technologies. One significant impact

is that a smaller number of full-time employees (FTE) are required to process the SEOT compared with paper-based evaluations (.75 FTE year-round online; 3 FTE year-round paper-based). For the institution, this represents a net saving that can be deployed to other areas. The university's student information system (SIS) Jenzabar is premised on Web 2.0 technology, with links to the SEOT online course evaluation system (CoursEvals).

The identical items are reformatted to allow self-evaluation and peer evaluation. Both forms of evaluation allow instructors to continuously improve their teaching practice. These Web 2.0 technologies have impacted the institution's image, as the university-wide SEOT was instrumental in the university's recent institutional accreditation.

Students who use SEOT are assured anonymity and/or confidentiality. They are encouraged to be honest and open about their assessments. Feedback on academic instruction contributes to personnel decisions and course adjustments. Students are informed of important announcements via Web 2.0 technologies. A set of color-coded general guidelines on SEOT administration is emailed, along with mailed hard copies, to program professors, campus administrators, instructors, and proctors. Each program in turn establishes specific procedures for distributing, administering, and collecting responses. The ultimate responsibility for implementing provisions and protocol and for preventing abuses rests with the academic administrators and program professors or their designates. Web 2.0 technological incentives are used to encourage student participation.

The organization and management of SEOT mandates the use of Web 2.0 technologies, particularly because staff members operate in a fast-paced working environment that requires several deliverables in a timely manner. For instance, the PD workflow flowchart was formulated with the use of Web 2.0 technologies. The response rate for online evaluations shows an overall percentage increase from 2009 to 2012, as shown in Figure 2.

Table 1

Summary of online SEOT student participation

	Semester 1 2011–12		Semester 3 2010–11		Semester 2 2010–11		Semester 1 2010–11		Semester 3 2009–10		Semester 2009–10	Semester 1 2009–10		
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Overall participation		32		24		31		29		29		23		21
Participation in active courses		31.4		25.33		32		28.9		29.8		24.24		22.9
Total Number of courses	**1033**	100	**435**	100	**710**	100	**308**	100	**155**	100	**196**	100	**98**	100
Number of courses with zero participation	**39**	3.78	**30**	6.90	**42**	5.92	**42**	13.64	**16**	10.32	**16**	8.16	**13**	13.27
Number of courses with participation	**994**	96.22	**405**	93.10	**668**	94.08	**266**	86.36	**139**	89.68	**180**	91.84	**85**	86.73
Participation 50% and over	**200**	19.36	**200**	45.98	**150**	21.13	**63**	20.45	**40**	25.81	**15**	7.65	**150**	153.06

Source: University Records, 2012.

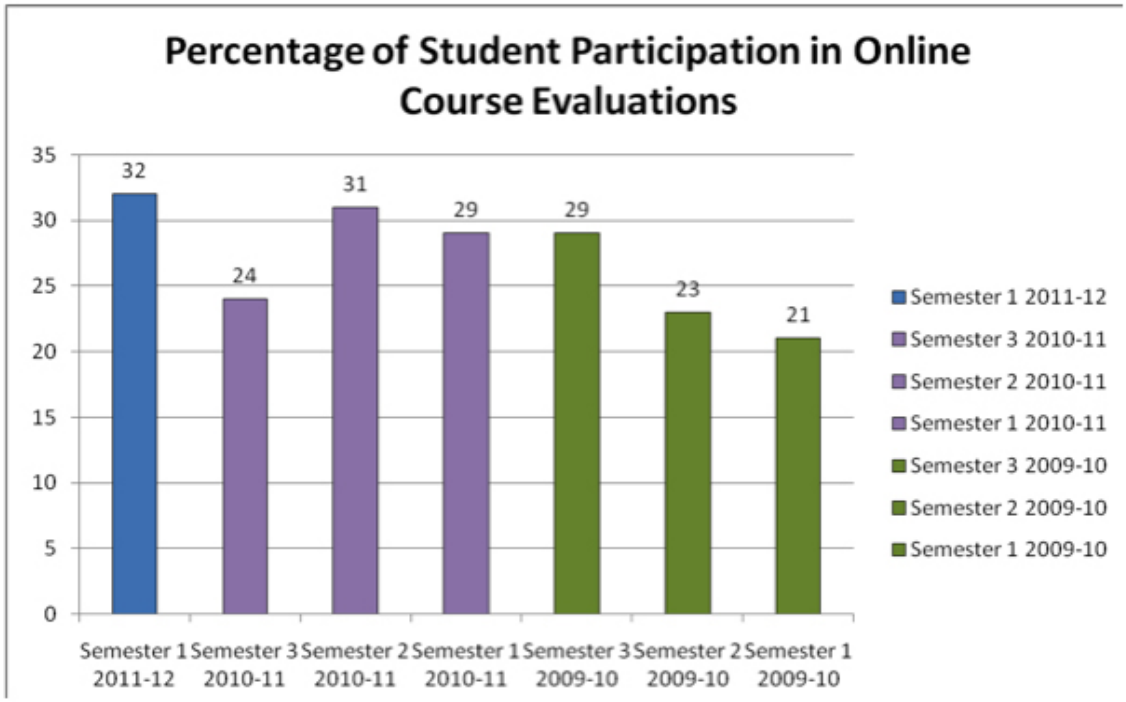

Figure 2 Source: University Records, 2012

The impact of Web 2.0 technologies in HE on data analysis cannot go unmentioned. The collected SEOT data could not be effectively analyzed without the use of Web 2.0 technologies, in the form of computer software packages such as CoursEvals (for online SEOT) and Remark (for paper-based SEOT). These software packages automate the process and allow generating reports of descriptive statistics, including but not confined to response rates, means, standard deviations, and bar graphs. It is understood that some evaluation datasets may be skewed for a number of reasons, including classes with very small numbers of students, evaluations with very low response rates, first-time courses given on an experimental basis, and faculty in their first years of teaching. Given that 50,000 SEOT for approximately over 800 courses must be prepared, distributed, administered, and reported for each semester, Web 2.0 technologies have been invaluable in accomplishing this feat.

Digital scans of open-ended comments are prepared for scrutiny, a herculean task were it not for Web 2.0 technologies. Instructors who require assistance are guided by their program professors or program coordinators and leaders, who can refer them to the learning center for one-on-one assistance. When SEOT reports fall below a collaboratively established acceptable threshold, the Learning Center uses Web 2.0 technologies to initiate communication with program professors, leading to overall personal improvement. Faculty can respond in writing to the program professor when student ratings are used for performance evaluation. These responses become part of a permanent SEOT record.

At the system's center is a helpdesk manned by an experienced, trained professor who spends quality time with each referral or walk-in instructor. Faculty members are strongly encouraged to seek assistance at any time for conducting their courses. The professor uses a range of Web 2.0 technologies: Skype, email, instant messaging, SMS, Flickr, Facebook, Twitter, LinkedIn, Internet searches, Google Maps, YouTube Videos, webcasts, webinars, Elluminate Live, Mobil Application updates, blogs, Wikis, and online journal access, among others.

The impact of Web 2.0 technologies in HE on data analysis cannot go unmentioned. The collected SEOT data could not be effectively analyzed without the use of Web 2.0 technologies, in the form of computer software packages such as CoursEvals (for online SEOT) and Remark (for paper-based SEOT). These software packages automate the process and allow generating reports of descriptive statistics, including but not confined to response rates, means, standard deviations, and bar graphs. It is understood that some evaluation datasets may be skewed for a number of reasons, including classes with very small numbers of students, evaluations with very low response rates, first-time courses given on an experimental basis, and faculty in their first years of teaching. Given that 50,000 SEOT for approximately over 800 courses must be prepared, distributed, administered, and reported for each semester, Web 2.0 technologies have been invaluable in accomplishing this feat.

Digital scans of open-ended comments are prepared for scrutiny, a herculean task were it not for Web 2.0 technologies. Instructors who require assistance are guided by their program professors or program coordinators and leaders, who can refer them to the learning center for one-on-one assistance. When SEOT reports fall below a collaboratively established acceptable threshold, the Learning Center uses Web 2.0 technologies to initiate communication with program professors, leading to overall personal improvement. Faculty can respond in writing to the program professor when student ratings are used for performance evaluation. These responses become part of a permanent SEOT record.

At the system's center is a helpdesk manned by an experienced, trained professor who spends quality time with each referral or walk-in instructor. Faculty members are strongly encouraged to seek assistance at any time for conducting their courses. The professor uses a range of Web 2.0 technologies: Skype, email, instant messaging, SMS, Flickr, Facebook, Twitter, LinkedIn, Internet searches, Google Maps, YouTube Videos, webcasts, webinars,

Elluminate Live, Mobil Application updates, blogs, Wikis, and online journal access, among others.

In order to scaffold learning and provide sound advice, particularly for effortful cognitive tasks that prove challenging to faculty, instructors also use applications such as OpenScholar (a software application and document management system allowing online entry and storage of biographical data, research projects, and other documents), Lecture Capture (to record and digitize lectures), Vimeo (an online platform for sharing and discovering video content globally: http://vimeo.com/), Prezi (a cloud-based presentation and story-telling software for idea sharing on a virtual canvas: http://prezi.com/), Google Drive, the new home for Google Docs (a collaborative online platform that allows users to create and upload documents rapidly and edit in real time: https://docs.google.com), SideSix (an online platform that specializes in responsive Web design: http://sidesix.org/), Slideshare (an online community presentation-sharing platform supporting pdfs, videos, and webinars: http://www.slideshare.net/), LinkedIn (a professional social networking website), Freebase (a large, online collaborative collection of structured data/metadata harvested from many sources: www.freebase.com), and pdfsam (for splitting and merging pdfs). Several faculty members also use smart phones with numerous online applications such as ChatON, iCloud storage, calendars, YouTube videos, iTunes, Google maps, News stand, Skype, audio books, Snapfish, Flickr, Face Dial, and many more to facilitate the SEOT-assessed teaching and learning process. Of note, Google maps provide accurate directions between the geographically separated campuses where faculty conduct face-to-face classes. Needless to mention, birthday, anniversary, and special events are announced online using Web 2.0 technologies, providing additional motivation to faculty as they engage in their daily work.

Faculty members are encouraged to respond to student ratings on their performance and use the information to improve the teaching and learning process. Comparisons between their self-evaluations and peer evaluations serve as reference points for further reflection and deliberation.

Mention must be made here about the archival potential and data storage capacity for SEOT thanks to Web 2.0 technologies. Prior to online SEOT, stacks of paper-based SOET had to be stored in spaces that could have otherwise been used as office space. The manpower involved in organizing and stacking bales of paper was phenomenal. With Web 2.0 technologies and online SEOT, years of information can be stored in the cloud and quickly retrieved when required.

Faculty and Staff Professional Development (PD)

Comments from the SEOT are used to plan and design PD workshops on an ongoing basis. Basically, program professors meet with faculty to discuss their SEOT results. When reports are acceptable, after all the variables relating to the faculty member have been collaboratively considered and no additional assistance is requested, PD workshops underscoring the principles the teacher used for successful teaching are proposed and retained for future reference. When there are shortfalls, and faculty need to hone certain skills, workshops are planned by the PD unit of the Learning Center. The process is iterative, and the workshops are continuously adapted to individual faculty needs. Editing, printing, and packaging workshop materials are some of the many activities that require Web 2.0 technologies. The Internet is a powerful source of information, providing much needed resource materials for effective workshops. All materials are properly sourced for copyright purposes and to provide easy referral and access by workshop attendees. Web searches, especially Google searches, are frequently used to retrieve relevant information for a variety of workshop topics. An array of shareware is also used as workshop resource materials. You Tube videos (both commercial and mash-ups) can help faculty internalize fundamen-

tal concepts pertinent to PD. Plans are underway to prepare self-made You Tube videos. Self-made PowerPoint presentations also use Web 2.0 technologies. Thus, Web 2.0 technologies continue to impact the delivery of quality materials for all faculty PD workshops. Social networking websites such as Facebook, Twitter, Myspace, Qapacity, Blauk, deviantART, Vox, LibraryThing, aNobii, Shelfari, weRead, GamerDNA, Playfire, Wakoopa, Epernicus, Advogato, Bebo. Google+, MEETin, Tagged, Kiwibox, Itsmy, MocoSpace, Ning, and Raptr, to mention a few, are used by workshop participants to communicate with each other about workshops and other issues.

The university hosts a website that facilitates connection to major social networking sites such as Facebook and Twitter. Microsoft PowerPoint, Prezi, and Slideshare are useful for presenting materials at workshops. Flickr, Picasa, digital media files (audio and video) downloaded through web syndication, webcasts, educational gaming, Google maps, and information from a variety of virtual learning environments and You Tube videos provide a rich source of resource materials for workshop delivery. Regular contact with professional colleagues is established and maintained through LinkedIn, a business-related social networking site launched in 2003. Intranet communication, email, online discussions with seeded discussion boards, and internal Web blogs allow faculty and staff to quickly communicate with each other on a range of matters, including PD workshops. Journal websites, educational shareware, and other library resources are used extensively for workshop preparation, particularly to appeal to the different learning styles (auditory, visual, kinesthetic, and combinations of these) of participants. All this has been made possible by Web 2.0 technology.

Over the past six years, the PD unit of the Learning Center has conducted multiple Problem-Based Learning (PBL) workshops for faculty and students, involving a total of 65 students and over 1,640 faculty and staff members. Overall average participant satisfaction ratings range from 86% to 98%.

All workshop materials are stored as hard copies and in digital format using shared computer space. Faculty and staff can readily access workshop materials due to the storage capacity of Web 2.0 technologies. Table 2 summarizes part of a slate of faculty professional development workshops for one semester. Without Web 2.0 technologies, it would be impossible to offer these workshops across the campuses located at different sites on the two islands.

Table 2

Summary of part of a slate of PD workshops for one semester

#	Workshop Title	Workshop Description	Campus
1	Still Shooting and Basic Photo Editing (Picasa & Photofile)	Basic "point and shoot" with a range of devices, including mobile phones and the incorporation of Picasa, Photofile, and other free online software.	2
2	Adding interest to your Blackboard course and enhancing communication 	Participants will learn to use the Discussion Board tool at each point in the lifecycle of discussions – from creating forums and threads to moderating, managing, and grading discussions. Participants will learn to use Blackboard tools to keep students informed about course events, send messages, and communicate effectively in real time.	4
3	Creating Effective PowerPoint Presentations	Hints for creating a successful presentation, effective PowerPoint slides, what NOT to do, text guidelines, a guide to using clip art and graphics.	3
4	Educational Uses of Social Networking Programs	The broad range of social media applications enables new forms of online interaction. They are suited for working together, supporting content creation, and sharing within your community. In order to transfer these opportunities to education, we will identify application scenarios and good practices, and we will discuss the opportunities and limitations of the tools and services for their effective use.	5
5	CV and Publication database: Scholar	An online resource that enables individuals to create their own personal websites.	1
6	Grade Centre and Student Groups in Blackboard 	Instructors will create groups and provide collaborative tools for students as they work together on group projects. Participants will also be introduced to the Grade Center tool (the online grade book), and will learn how to navigate the Grade Center and customize it for their needs.	4

#	Workshop Title	Workshop Description	Campus
7	Practical Tips and Safe Assign 	Participants will learn how to use Safe Assign ,Blackboard's plagiarism checker.	4
8	Adding interest to your Blackboard course and enhancing communication 	Participants will learn to use the Discussion Board tool at each point in the lifecycle of discussions – from creating forums and threads to moderating, managing, and grading discussions. Participants will learn to use Blackboard tools to keep students informed about course events, send messages, and communicate effectively in real time.	4
9	Podcasts	Creating a podcast allows instructors to share learning experiences. They can also use the technology to provide additional and revision material to students to download and review at a time that suits them. The flexibility that such time-shifting offers makes podcasting a valuable educational tool.	7
10	Enhancing Communication and Safe Assign in Blackboard 	Participants will learn how to use Safe Assign, Blackboard's plagiarism checker. Participants will also learn to use Blackboard tools to keep students informed about course events, send messages, and communicate effectively in real time.	4
11	Student Groups and Wikis and Blogs 	Participants will learn how to use Safe Assign, Blackboard's plagiarism checker. Participants will also learn to use Blackboard tools to keep students informed about course events, send messages, and communicate effectively in real time.	4
12	Social Media in your Campus Library	Specifically developed in reference to the Corinth Campus Library, this guide can be tailored to the various campuses to encourage the use of Social Media in the library, drawing on the ways in which other universities are using Social Media in libraries to interact with their students.	4

Source: University Records, 2012

Using Blackboard (Bb) for SEOT

SEOT information is disseminated in a timely way through the Learning Management System, Blackboard (Bb), which is used for all courses across the university. The Learning Center regularly conducts training courses to upgrade all faculty in Bb use as well as regular updates and new releases. Faculty use Bb to engage with their students on course matters, resource materials, updates, and many types of collaborative projects. At a minimum, course outlines, resource materials such as research articles, relevant Web links, visual resources, and other relevant data and information are posted on Bb. SEOT reminders are also regularly posted on Bb. Bulletin boards and online forums are used extensively to discuss various subject-related issues. The interactive nature of Web 2.0 technology allows faculty to be in constant contact with students on their desktops, laptops, or mobile devices. Students use a range of mobile devices, including iPhones, iPads, Pods, and a number of commercially available androids.

Teachers and instructors are given ongoing training in CoursEvals, Remark, and Bb using webinars organized by their respective training representatives. Elluminate Live is often used by some faculty for personal training at home and at universities abroad. A number of Web 2.0 technologies are also used by both faculty and staff at the university for personal PD. Some of the more commonly used features include Google Chrome, Google Chrome Sync, Internet searches (Google, Explorer, Firefox, Safari, etc.), Dictionary.com, Microsoft packages, (Word, Excel, PowerPoint, Publisher, Calendar), email, blogs, Wikis, and RSS.

A group of 21 graduate students enrolled in a Master's program in Industrial Innovation, Entrepreneurship and Management (IIEM) at our university used blogging to communicate their personal experiences during an international study tour in North America. As an integral part of the program, the tour provides the students with opportunities to study the operations of globally competitive businesses as they incorporate learning outcomes from their program, research, and business interests. The blog is accessible to all interested persons by logging on using Web 2.0 technologies.

The university introduced Bb as its course/learning management system in 2008 under the guidance of an advisory committee, of which this researcher was a member. Bb use has increased over the years, as shown in the following three figures, which were sourced from 2012 university records.

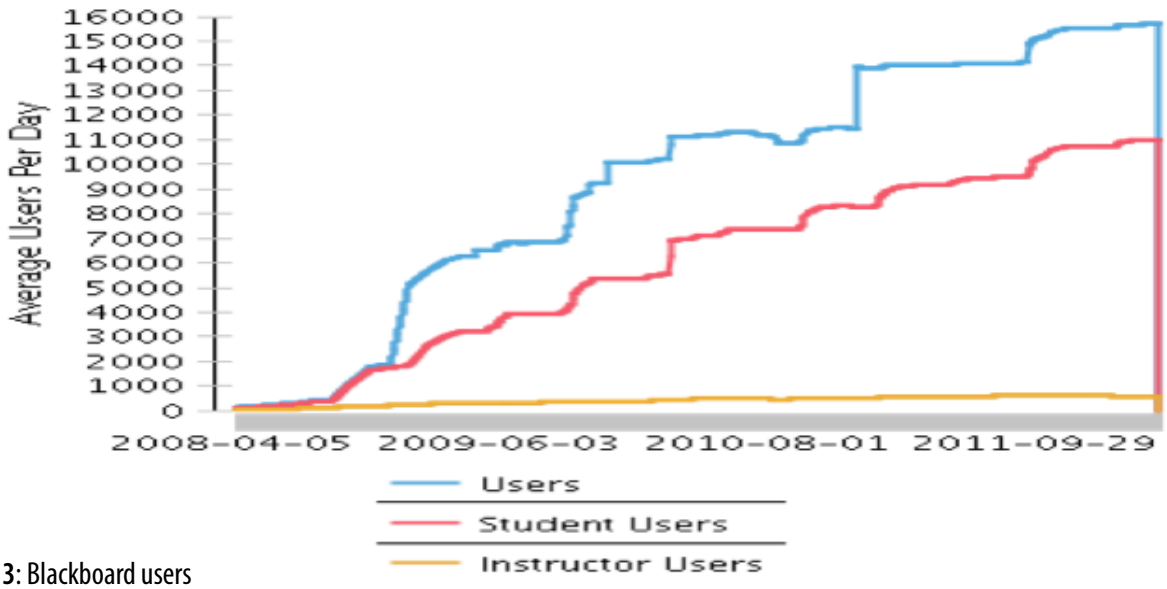

Figure 3: Blackboard users

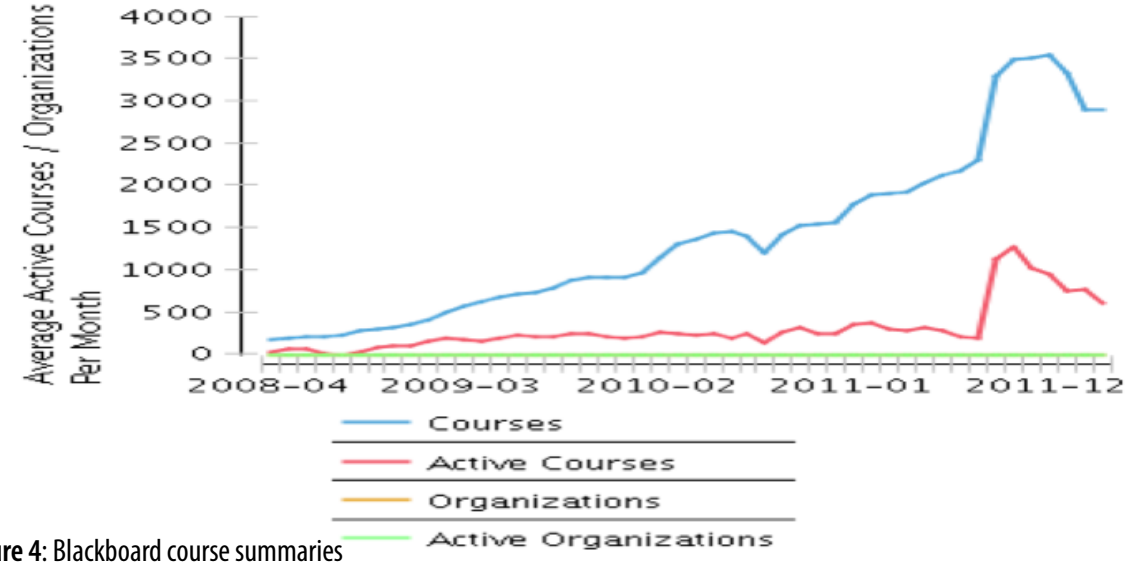

Figure 4: Blackboard course summaries

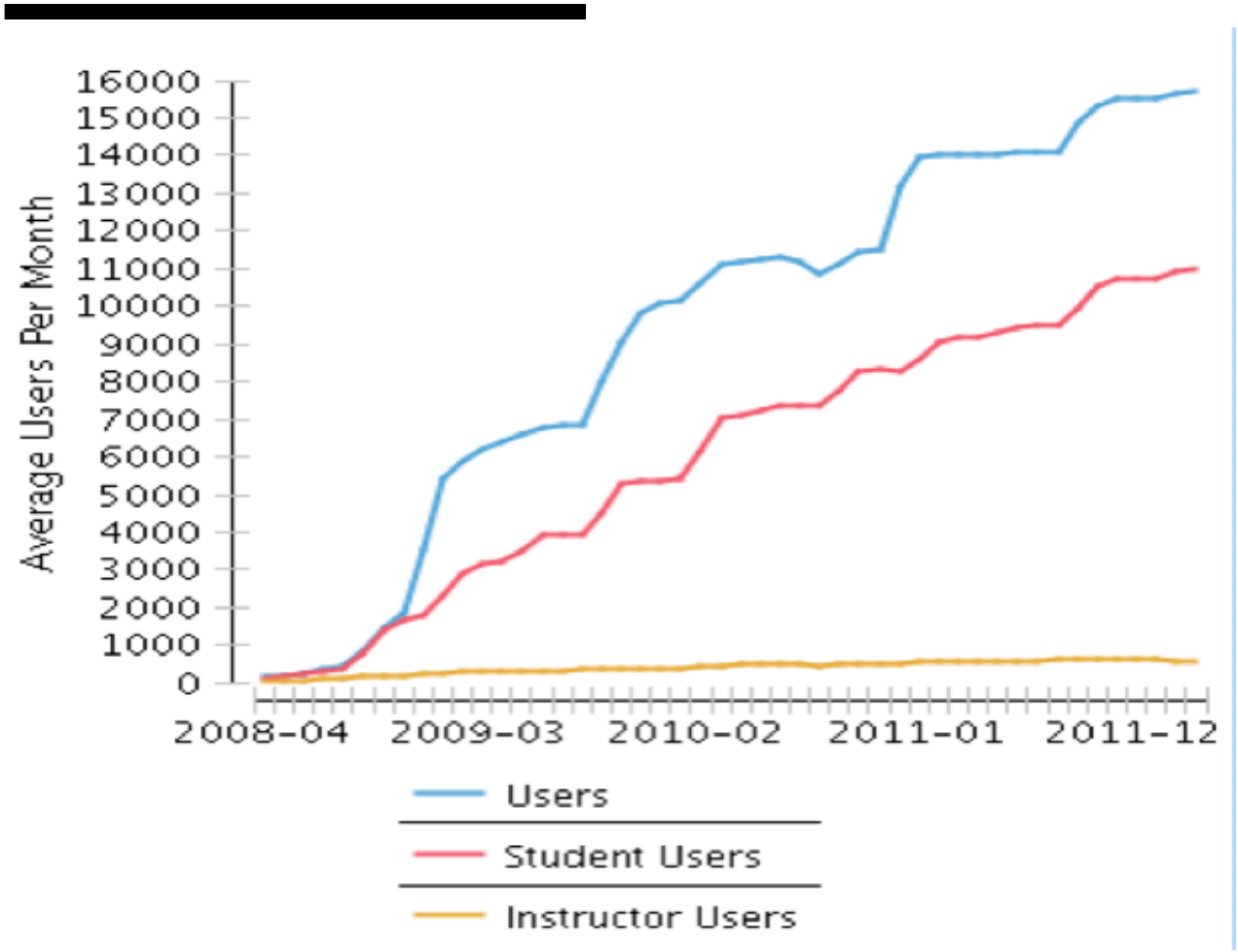

Figure 5: Blackboard course summaries

Since 2009, towards the middle of the first semester, the Learning Center has hosted an annual event called Five Minutes of Fame to showcase the impact of Web 2.0 technologies in the classroom for innovative teaching and learning. This occasion addresses the following SEOT item: "A variety of instructional aids were used to help internalize the course content." For instance, in 2009 the presentations included Learning Experientially – The way to go; The challenge to change; Involving students with "Life Skills" tasks and discussions when Bb is utilized; Using digital media to reinforce and enhance learning; and Using social networking sites to supplement Bb: Students' experiences and lesson learnt. All presentations are Web-linked for archival purposes, again made possible by Web 2.0 technologies.

Conclusion

This paper highlighted the growing role of Web 2.0 technologies in sourcing ongoing information from university students in an effort to assist faculty and staff in continuous PD, with the ultimate goal of incrementally improving the teaching and learning experience. An overview of Web 2.0 technology and SEOT underscored the significant role of Web 2.0 technology at the university. Details of specific Web 2.0 technologies in use were highlighted, along with their contribution to enhancing faculty and staff PD for lifelong sustainable learning and overall personal growth. Some of the Web 2.0 technologies mentioned included Wikis, email, SMS, RSS, blogs, social networking, videoconferencing, webinars, audio and video clips, SharePoint portal, podcasting, Skype, Google Docs, Flickr, Facebook, Twitter, LinkedIn, Internet searches, Google Maps, webcasts, webinars, Elluminate Live, and mobile applications.

Some notable limitations of this present study include occasional connectivity issues related to the Internet provider, which are outside the jurisdiction of the university. The varying extent to which faculty and support staff have training in, exposure to, and openness to new and innovative ideas constitutes another limitation of this study. Concurrently, the unwillingness of faculty to embrace new and emerging technologies could be a self-imposed limitation that may adversely affect their engagement in and appreciation of the effect of Web 2.0 technologies in higher education. A mindset that presupposes that Web 2.0 technologies are more appropriate for the younger generation than they are for older folks militates against rapid progress.

Possible avenues for future research include the effect of Web 2.0 technologies on support staff and other workers in higher education institutions. Issues of job stability and upward or lateral mobility could be limiting factors for enthusiastic faculty engagement with Web 2.0 technologies. Additionally, the influence of Web 2.0 technologies on lifelong learning in personal, domestic, and academic settings may provide other useful directions for future research. Finally, evaluating the multitasking capabilities of users of Web 2.0 technologies compared to non-users or limited users could provide a useful method for determining the magnitude of its influence on higher education. Readers may use the above-presented ideas to improve their institution's PD offering.

References

Becker, W.E., & Watts, M. (1999). The state of economic education: How departments of economics evaluate teaching. *AEA Papers and Proceeding*, *89*(2), 344-349.

Blackboard Database Repository (2012). Summary of courses; summary of Users, *Overall Summary of Usage*. Retrieved from http://utt.blackboard.com/.

Centra, J. A. (1977). Student ratings of instruction and their relationship to student learning, *American Educational Research Journal, 14*, 17-24.

Centra, J. A. (1993). *Reflective faculty evaluation*. San Francisco, Jossey-Bass.

Cohen, P. A. (1981). Student ratings of instruction and student achievement: A meta-analysis of multi-section validity studies, *Review of Educational Research, 51*, 281-309.

d'Apollonia, S., & Abrami, P.C. (1997). Navigating student ratings of instruction. *American Psychologist, 52*, 1198-208.

Dommeyer, C.J., Baum, P., Chapman, K.S., & Hanna, R.W. (2002). Attitudes of business faculty towards two methods of collecting teaching evaluations: Paper vs. online. *Assessment & Evaluation in Higher Education 27*, 455–62.

Marsh, H. W. (1987). Students' evaluation of university teaching: Research findings, methodological issues, and directions for future research. *International Journal of Educational Research, 11,* 253-388.

Marsh, H. W. & Dunkin, M. J. (1992). Students' evaluations of university teaching: A multidimensional perspective. In J. C. Smart (Ed.) *Higher Education: Handbook of Theory and Research* (pp. 143-233). New York: Agathon Press.

Murray, H. G., Rushton, P. J. & Paunonen, S. V. (1990). Teacher personality traits and student instructional ratings in six types of university courses, *Journal of Educational Psychology, 82*, 250-261.

--------BBC News (n/a). Millionth English word' declared. Retrieved from http://news.bbc.co.uk/2/hi/americas/8092549.stm/.

Halpin, H. & Tuffield, M. (2010). Social Web XG Wiki. *World Wide Web Consortium*. Retrieved from: http://www.w3.org/2005/Incubator/socialweb/XGR-socialweb-20101206/

Koon, J. & Murray, H. G. (1995). Using multiple outcomes to validate student ratings of overall teacher effectiveness, *Journal of Higher Education, 66*, 61-81.

Layne, B.H., DeCristoforo, J.R. & McGinty, D. (1999). Electronic versus traditional students rating of instruction. *Research on Higher Education*, *40*(2), 221-232.

Marsh, H. W. (1984). Students' evaluation of university teaching: Dimensionality, reliability, validity, potential biases, and utility, *Journal of Educational Psychology, 76*, 707-754.

Marsh, H.W. (1987). Students' evaluations of university teaching: Research findings, methodological issues, and directions for future research. *International Journal of Educational Research 11*, 253–388.

Marsh, H.W. (2007). Students' evaluations of university teaching: A multidimensional perspective. In R.P. Perry and J.C. Smart (Eds.), *The scholarship of teaching and learning in higher education: An evidence based perspective,* (pp. 319–84). New York: Springer.

Mason, R. & Rennie, F. (2007). Using web 2.0 for learning in the community. *Internet and Higher Education, 10*, 196–203.

McKeachie, W. J. (1990). Research on college teaching: The historical background, *Journal of Educational Psychology, 82*, 189-200.

O'Reilly, T. (2012). *What is Web 2.0?* Retrieved from http://oreilly.com/web2/archive/what-is-web-20.html.

Ramsden, P. (1991). A performance indicator of teaching quality in higher education: The course experience questionnaire, *Studies in Higher Education, 16*, 129-150.

Richardson, J.T. (2005). Instruments for obtaining student feedback: A review of the literature. *Assessment & Evaluation in Higher Education 30*, 387–415.

Seldin, P. (1984). *Changing Practices in Faculty Evaluation*. San Francisco: Jossey-Bass.

Seldin, P. (1993). The use and abuse of student ratings of professors, *Chronicle of Higher Education, 39*(46), A40.

Selwyn, N. (2012). Social Media in Higher Education. *The Europa World of Learning*. Retrieved from http://www.educationarena.com/pdf/sample/sample-essay-selwyn.pdf.

Shevlin, M.P., Banyard, M., D., & Griffiths, M. (2000). The validity of student evaluation of teaching in higher education: Love me, love my lectures? *Assessment & Evaluation in Higher Education 25*, 397–405.

Shirky, C. (2008). *Here comes everybody*. London: Allen Lane.

Subrahmanyam, K. & Šmahel, D. (2011). *Digital youth*. Berlin: Springer.

Tapscott, D. & Williams, A. (2007). *Wikinomics*. New York: Atlantic.