Analyzing the Effectiveness of Using a University Course Evaluation Instrument to Assess On-line Course Instruction

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Abstract

Three separate sources of course feedback data are triangulated to determine the effectiveness of using the regular university course evaluation instrument to assess on-line courses. A teacher-made course improvement survey, collected anonymously from 22 on-line masters-level courses over six semesters was re-examined to compare comments to those collected by the university with its ubiquitous course evaluation instrument. Further data collected consisted of course delivery data, such as the number of emails, discussions, and journals responded to, and the number of assignments graded. The study found the university evaluation and teacher-made survey collected similar feedback from students, with the exception of peer interaction, which is not measured by the university evaluation. It was further found that prompt, specific communication and feedback from the instructor increased positive student perception of course outcomes. Real-life application of course information was found to increase student perception of knowledge and skills gained through course. It was also found that a well-organized course, with tight alignment among course objectives, assignments, and assessments led to favorable course evaluations. The study concluded that the regular university evaluation instrument effectively assessed on-line courses in the areas of course design and delivery.

Introduction

When discussing on-line instruction, the elephant in the room is how do you know if the course is effective? When administrators are largely unfamiliar with the delivery forum, and unable to physically observe instruction, how are instructors and students accountable for the desired learning?

Purpose of the Study

The purpose of this study is to identify potential evaluation documents and procedures for the continual improvement of on-line courses and professional development of on-line professors. An examination of on-line teaching practices in effective graduate courses is compared to existing literature findings on effective on-line instruction, in order to draft on-line course evaluation procedures.

Research Problem

The findings of this study will seek to resolve the question of whether on-line course effectiveness can be efficiently analyzed based on traditional university course evaluation processes.

Related Literature

On-line Instruction Approach

All on-line courses are not created equal. Some require high levels of student-teacher and student-student interaction, while others are more self-paced with little interaction (Brown & Green, 2003). Traditional, face to face course delivery is saturated in a social atmosphere. The teacher serves as the role model and fount of knowledge, and peers interact with each other to master the content. Duplicating this structure in an on-line environment may appear unfeasible (Willson, Cordry & King, 2004). On-line courses make some key instructional methods, namely modeling, difficult if not impossible (Dudding & Justice, 2004). Courses can be conducted in "real time" or "asynchronously", and they can be highly structured and interactive, or allow students to work in isolation at their own pace. A distinct advantage to on-line instruction is the class discussion. In the traditional classroom, spontaneous answers often dominate class discussion. Shy students, and those who require "think time" before responding, are regularly relegated to the side lines.

Professors who have had positive on-line teaching experience see on-line instruction as effective as face-to-face teaching, although those who have never taught on-line did not feel the learning outcomes were the same, causing friction among faculty members (Fish & Gill, 2009). On-line course quality is affected by the interest instructors have in teaching on-line, as well as by the amount of time they have to plan, design, and develop their course (Akdemir, 2008). Laves (2010) found that students and faculty felt teacher presence positively impacted students' perceived learning and sense of community in their on-line class. To establish on-line instruction quality as equivalent to face to face instruction, indisputable evaluation of course effectiveness is required.

The Power of Pedagogy

It is difficult and unadvisable to duplicate in-person teaching strategies on-line (Willson, Cordry & King, 2004). Freely browsing learning modes used in most on-line courses may lead to cognitive overload and disorientation (Chen, 2007). On-line course pedagogy evolves from a didactic approach to a constructivist model. Focusing on "direction giving" details, more guided practice, and coaching are effective in holding on-line students accountable for their participation, without overwhelming the instructor (Roskos, Jaosewich, Lenhart & Collins, 2007). Student collaborative projects, student-to-student discussions, lecture, questioning with feedback, and e-mail communication with the professor were effective strategies for an on-line learning environment (Jones, 2011, Stienbonn & Merideth, 2007). Through "learning by doing" course projects, instructors can shift student focus from content to process (Duncan & Barnett, 2010). Limniou & Smith (2010) found that students preferred more interactive teaching, with collaboration and individual feedback. Further social interaction can be achieved by requiring comments on peers' postings, modeling a `discussion facilitator' role, and collaborative learning strategies (Ramos & Yudko, 2008).

Course Evaluation

Either on-line courses do not receive the same assessment as traditional courses, or they are singled out for interrogation and critique (Brown & Green, 2003). A fair and equitable assessment standard for on-line and traditional courses is necessary to guarantee quality throughout a program. There is a negative correlation between teaching evaluations and technology problems (Lan, Tallent-Runnels, Fryer, Thomas, Cooper & Wang, 2003), causing professors to be penalized for issues beyond their control.

A specialized evaluation instrument may be used to assess faculty standards and student satisfaction with an online course (Hathorn & Hathorn, 2010). Items proven to be appropriate for assessment include basic instructor information, basic course information, hardware and software requirements and tech

support contacts, measurable learning objectives, effective communication, course organization and navigability, and minimized distractions such as animation (Hathorn & Hathorn, 2010). Because some online instructors teach from course shells designed by someone else, separation of technical and teaching issues is necessary; their evaluation should not be penalized or enhanced through the work of the course designer. Holding online instructors accountable for how they implement a course shell is equivalent to evaluating face to face implementation of a standardized syllabus.

Research Design

This study is designed to determine how best to evaluate an online instructor's classroom effectiveness. The SoTL design utilizes secondary analysis of existing case study data collected over multiple semesters of several different educational leadership online courses taught by one professor. Courses were taught in a statewide Master's educational leadership program through a public university. Approximately 75% of program students were pursuing K-12 principal certification, with the remaining students split between K-12 Master's only and Community College/Higher Education degrees. The case study instructor is a non-tenure track, associate professor, with eight years of university teaching experience (six and a half teaching online).

Data from six semesters of three separate courses were examined. Tallied sums of e-mails read and e-mails sent, discussion posts read, journals responded to, assignments graded, first-day introductions responded to, and user (student) online sessions were averaged by course and by week. Additionally, archived anonymous feedback surveys collected at the end of each class by the professor were reexamined for this study. The survey was designed by the instructor for continual improvement of design and delivery of each course. It consisted of 15 open ended, qualitative questions and 10 Likert scale questions, based on current literature in online pedagogy. Responses were read, distilled, tabulated, sorted, and tallied to discover trends in the following three areas:

1. Interaction between student and professor

2. Social interaction among peers

3. Course design

Results of both data analysis procedures (tabulated professor actions and student feedback summaries) were triangulated with the university's course evaluation instrument, used to evaluate the "Instruction" component for all instructors.

Data Presentation

Table 1 represents the course delivery workload of the case study professor. It should be noted that all courses utilized a high level of e-mail interaction between instructor and students, active class discussions, first-day introductions, and weekly feedback on written assignments. Only one of the courses utilized a private journal between students and instructor. Online user sessions represent the number of times students logged onto the course, but do not indicate the length of time they remained online, nor the frequency students worked offline on the course.

Table 2 summarizes the distilled comments gathered from each of the reexamined course improvement surveys. After multiple readings and rounds of distillation, three factors emerged from student feedback, including interactions between student and professor, social interaction among peers, and aspects of

course design. Distilled comments from all six semesters of three courses included in the case study are categorized and tallied into the lists in Table 2.

The case study university evaluates all instructors, regardless of rank or tenure track, in part with student course evaluation. This is measured by an online, anonymous survey, made available to all students near the end of each course term. It consists of 15Likert scale statements and one open-ended "additional comment" opportunity. Qualities of course design are measured by five of the instrument items (1, 7, 8, 9, 10). Instructor knowledge can be inferred by three of the instrument statements (3, 4, 12). Students make assessments of the instructor's caring and objectiveness in items 6 and 13, respectively, while general satisfaction is measured with five items (2, 5, 11, 14, 15). Figure 1 represents the content of the university course evaluation instrument used to assess all instructors, regardless of delivery method, along with the aggregated results from 22 courses over the span of this study (n = 489, response rate: 92%). Table 3 summarizes the top ten qualitative comments from Number 16, tallied with number of instances comment was made in written comments. All data sources are triangulated in Table 4, including analysis of course delivery statistics, teacher-made course improvement survey, and both quantitative and qualitative data from university course evaluation.

Table 1 Case Study Online Teaching Workload.

Task	**Course Average**	**Weekly Average**
E-mails read	460	47
E-mails sent	360	37
Discussions read	1744	178
1st Day Introductions responded to	29	NA
Journals read and responded to	3164	25
Assignments graded	371	38
User sessions online	1936	210

Table 2. Tally of distilled feedback survey data by course.

Factor	**Course 1 (N=153)**	**Course 2 (N=150)**	**Course 3 (N=127)**
Interaction between student and professor	· Quick and specific feedback (140)	Prompt (139) Helpful (130)	Helpful (114) Caring (102)

	· Caring (125) · Timely (87) · Prompt (65) · Encouraging (133) · Constructive (142) · Humor (101)	Focus on student (128) Appreciation of peer support (88) Friendly (130) Quality feedback (137) Humor (110)	Prompt interactions (90) Timely feedback (57) Valuable feedback (99) Humor (89)
Social interaction among peers	Connected as class community (140) Positive group work (75) Positive group discussions (138) As much or more participation in discussions as in-person class (139) "Quiet" students more "vocal" (80) Ability to organize thoughts before making comments (76) Respect (140)	Appreciation for varied backgrounds (79) Inability to hide in a corner (88) Participated as much or more than in-person class (134) Time to think (82) High expectations (99) 24-hour access (58) No intimidation (78) Ability to learn from other's perspective (130) Ability to	Felt part of a class community (123) Required participation in discussions key to community (115) Learning from others motivated participation (115) Positive interactions with peers (115) Valued other's insights and experiences (115) Inability for students to dominate discussion (78)

	Discussions vital to meeting course objectives (125)	review discussions (101)	
Course design	Due dates (132) Course calendar (134) Real-life application of course activities (144) Adaptability of activities to fit student situation (101)	Structure kept them motivated (127) Due dates (130) Step-by-step formative approach to large projects (97) Real-world applicability of assignments (144)	Material applicable to real-world (117) Very well set up (80) Manageable "chunks" (115) General Q&A discussion helpful (80)

Figure 1. University course evaluation instrument items.

1. The content of this course was organized and logically presented. 4.14/5.00
2. I learned a great deal by taking this course. 4.21/5.00
3. The instructor demonstrated a thorough knowledge of the subject matter. 4.48/5.00
4. Important ideas were explained well. 3.92/5.00
5. The objectives for this course have been accomplished. 4.49/5.00
6. The instructor demonstrated an interest in student progress. 4.45/5.00
7. There was agreement between the announced objectives and course content. 4.32/5.00
8. Assignments contributed to an understanding of course content. 4.26/5.00
9. The instructor's examples and illustrations were helpful. 3.98/5.00
10. Examinations (papers, projects) measured important aspects of this course. 4.23/5.00
11. My interest in the subject has been stimulated by this course. 4.08/5.00
12. The instructor was prepared to teach this course. 4.49/5.00
13. Grading reflected student performance. 4.31/5.00

14. This course has increased my knowledge and understanding in areas covered. 4.24/5.00

15. The course as a whole was worthwhile. 4.21/5.00

16. Please add any additional comments pertaining to the course or instructor.

Table 3. Tallied summary of qualitative comments from university evaluation instrument.

Comment	Tally
Supportive/helpful	34
Well organized course	34
Prompt	31
Great/formative feedback	30
Applicable to real life	24
Rigorous	17
Proactive communicator/engaged with class	15
Motivating	13
Knowledgeable	10
Always available	7

Table 4. Triangulation of online course evaluation analysis.

Course delivery (per course)	**Course improvement survey**	**University course evaluation instrument (Quantitative)**	**University course evaluation instrument (Qualitative)**
E-mails sent (360) Discussions read (1744) 1st Day Introductions responded to (29)	· Quick and specific feedback (140) Quality/valuable feedback (236) · Caring (227)	Learned a great deal 4.21 Course objectives have been met 4.49 Interest in subject has been stimulated 4.08	Supportive/helpful 34 Prompt 31 Great/formative feedback 30 Proactive

Journals read and responded to (1364)	· Prompt (438) · Encouraging/ · Constructive (275) · Humor (300) Helpful (244) Focus on student (128) Friendly (130) Appreciation of peer support (88)	Course increased knowledge in area 4.24 Course was worthwhile 4.21 Instructor knowledgeable 4.48 Ideas explained well 3.92 Instructor prepared to teach course 4.49 Instructor interested in student progress 4.45	communicator/engaged with class 15 Motivating 13 Knowledgeable 10 Always available 7
Discussions read (1744) 1st Day Introductions responded to (29) User sessions online (210)	Connected as class community (163) Positive group discussions (213) As much or more participation in discussions as in-person class (273) Inability to hide in a corner (168) Ability to organize thoughts before making comments (158)	Learned a great deal 4.21 Course objectives have been met 4.49 Interest in subject has been stimulated 4.08 Course increased knowledge in area 4.24 Course was worthwhile 4.21	Not assessed

	Respect (296) Ability to learn from other's perspective (554) High expectations (99) 24-hour access (58) Ability to review discussions (101) Required participation in discussions key to community (115) Discussions vital to meeting course objectives (125)		
Assignments graded (371)	Prompt (438) Encouraging/Constructive/ Helpful (519) Valuable/Quality feedback (236) Quick and specific feedback (140)	Grading reflected student performance 4.31	Great/formative feedback 30
(Course development not analyzed)	Real-life application of course activities (405) Adaptability of activities to fit	Logically organized content 4.14 Aligned objectives/content 4. 32	Well organized course 34 Applicable to real life 24 Rigorous 17

	student situation (101) Very well set up (80) Structure kept them motivated (127) Step-by-step formative approach to large projects (212) Due dates/calendar (396) General Q&A discussion helpful (80)	Assignments led to understanding 4.26 Helpful illustrations 3.98 Examinations measured objectives 4.23	

Findings and Conclusions

Analysis of triangulated data finds that the university evaluation instrument produced nearly identical feedback as the course improvement survey, with the exception of peer interactions. Course statistics and teacher-made survey identify peer interactions as "vital" in meeting course objectives, yet the evaluation instrument does not assess the impact of class community. Average course delivery statistics may be related to positive communication responses in both teacher-made survey and university evaluation. It may be concluded from these findings that incorporating prompt, specific communication between instructor and students, and among students, lead to positive student perception of course outcomes. This supports findings by Jones (2007),Steinbronn & Merideth (2007), and Limniou & Smith (2010). It is also found that using real-life application of course materials increases student satisfaction, supporting Duncan & Barnett (2010). Additionally, it is found that students appreciate a "well organized" course, in which all assignments are aligned with course objectives, and build up to meaningful, real-life application of knowledge and skills. Based on these findings, it can be concluded that the university course evaluation instrument used for all instructors effectively assesses on-line instruction as far as course design and delivery go toward student satisfaction.

Recommendations

From the findings and conclusions of this study, it is recommended that special evaluation measures for on-line courses need not be taken, provided the regular evaluation instrument assesses course design, instructor knowledge and caring, alignment of objectives and assignments, and other measures of student satisfaction. It is recommended that course evaluation include measure of peer interaction as it relates to meeting course objectives. It is also recommended that the onus of course evaluation be placed on professional development, so that on-line instructors are well-prepared for teaching on-line prior to doing so. Further research is recommended to statistically measure correlation between university course

evaluation instrument and on-line specific student satisfaction/outcome assessment in order to refine the findings of this study.

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