

## REVIEWS

### Online Student Course Evaluations: Review of Literature and a Pilot Study

Heidi M. Anderson, PhD, Jeff Cain, MS, and Eleanora Bird, MS

College of Pharmacy, University of Kentucky

Submitted May 28, 2004; accepted August 13, 2004; published January 31, 2005.

Most universities ask students to complete course evaluations as part of the institution-wide assessment process. Critics have argued that teaching evaluations should be used to help faculty members improve their teaching and not merely for salary, promotion, tenure, and merit considerations. The first section of this paper provides a summary of the literature about online student course evaluations and feedback from various colleges and schools of pharmacy that currently use an online evaluative approach. The last section describes the findings of one college of pharmacy that conducted a pilot study of this process, presents the quantitative and qualitative results of the pilot study, and summarizes the survey that asked students their perceptions regarding paper course evaluation and online course evaluation.

**Keywords:** course evaluations, assessment, online evaluation, Internet

#### INTRODUCTION

Most universities ask students to complete course evaluations as part of the institution-wide assessment process. Haskell states that student evaluations of faculty members were first used at the University of Wisconsin in the early 1920s primarily for “informational feedback so that faculty might be more aware of student needs.”<sup>1</sup> However, in the 1960s as more universities began to use these instruments in their curricula, the purpose clearly changed to a decision-making tool regarding salary, promotion, and tenure. Presently, these types of surveys probably constitute the most widely used form of teaching evaluation in higher education. Knapper and Cranton emphasize that “despite major criticisms, student questionnaires continue to be the dominant method for evaluating teaching across North America, and the approaches used today are, in fact, remarkably similar to those of 2 decades ago.”<sup>2</sup> Often these evaluations are used to improve teaching within the courses and as a basis for promotion and merit pay decisions. Critics have argued that teaching evaluations should be used for formative purposes, to help faculty improve teaching, and not merely for summative decisions regarding salary, promotion, tenure, and merit.<sup>2-5</sup>

The majority of researchers believe that student ratings are a valid, reliable, and worthwhile means of evaluating teaching.<sup>4,6-15</sup> Typically these evaluations are conducted at the end of the semester, trimester, or quarter. The majority of schools use paper-and-pencil evaluation sys-

tems. However, with the development of the Internet, online course evaluations of teaching are gaining momentum in higher education. A 2000 report on higher education conducted by Hmieleski noted that of the 200 institutions ranked as the most “wired,” only 2 reported institution-wide uses of online evaluation systems, and no school reported using a PDA (personal digital assistant) for course evaluation.<sup>16</sup> At an international conference in 2002, Thorpe stated, “The use of online course evaluation systems is relatively limited in higher education.”<sup>17</sup> However, this type of format is gaining momentum.

The literature about online student course evaluation indicates advantages and disadvantages of using this approach. Advantages include: (1) provides rapid feedback; (2) is less expensive to administer; (3) requires less class time; (4) is less vulnerable to professorial influence; (5) allows students as much time as they wish to complete; and (6) allows students multiple opportunities to evaluate faculty members. Disadvantages to this mode are: (1) requires computer access; (2) is considered less accurate by faculty unfamiliar with online methods who prefer the traditional in-class paper version; and (3) elicits lower student response rates.

The first section of the paper provides a summary of the literature on the use of online course evaluations versus traditional paper evaluations in higher education and pharmacy, and feedback from several schools and colleges of pharmacy that currently use an online evaluative approach. The second section describes a pilot study at one college of pharmacy that compared online course evaluations with traditional paper-based evaluations, and summarizes the findings of a survey of students’ perceptions of the 2 methods.

**Corresponding Author:** Heidi M. Anderson, PhD. Address: Assistant Dean, Education Innovation, College of Pharmacy, University of Kentucky, Lexington, Kentucky 40536. Tel: 859-257-5802. Fax: 859-257-6153. E-mail: hande2@email.uky.edu.

## LITERATURE AND OTHER EVIDENCE

This review examines studies from higher education and pharmacy literature comparing the online process with the traditional paper process and focuses on efficiency and student response rates.

### Comparison of Traditional vs. Online Evaluations

In one of the earliest studies on the subject, Woodward compared traditional course evaluations with online evaluations at Rutgers College of Pharmacy.<sup>18</sup> Students in one 3-credit hour course were randomly divided into 2 groups. Using the same course, they compared the evaluations for fall semester 1996 with those for fall semester 1997. Demographics for the 2 groups were similar, evaluation rates were not statistically different (97% paper and 88% online), and response rates to open-ended questions were similar (45% versus 33% respectively).

Dommeyer conducted a survey to determine the method of student course evaluation preferred by business professors and their reasons for the preference.<sup>19</sup> The survey of 159 faculty members had a 33% response rate. There was a preference for the traditional method of evaluation because faculty members believed it would produce a higher response rate and more accurate responses. Authors concluded that the online method might be more appealing to faculty members if techniques could be used to increase students' response rates.

Layne administered electronic and paper course evaluations to a sample of 2,453 students at a large southeastern university whose students were considered computer literate.<sup>20</sup> The students were randomly assigned to either the traditional paper group or the electronic group and the same survey instrument was used in both groups. Students were more likely to evaluate their professors when the evaluations were conducted in class (in-class response rate of 60.6% versus online response rate of 47.8%). The average ratings did not differ between methods. The authors also stated, "An unexpected finding of the study was that students who completed the survey electronically were much more likely to provide comments about their course and instructor than were students in the paper-and-pencil group."

A comparison study of curriculum evaluations using mailed versus e-mailed versions was conducted at Kansas Medical Center.<sup>21</sup> This study randomly assigned 164 fourth-year medical students to either a mail or e-mail group. The survey instrument contained 62 items including 1 free-response question asking for any additional comments. The response rate was 41% for mailed evaluations and only 24% for e-mailed evaluations. The

authors stated that the low response rate from the e-mailed surveys might have been due to the length (62 items) and content of the survey instrument. However, the rate of return for e-mailed responses was much quicker than for the mailed survey instrument. The authors suggested that pre-notification or some type of incentive might have improved the e-mail response rates. There were no statistically significant differences between the mail and e-mail groups for answers to any question. However, the average number of words in the open-ended response comment was greater for the e-mail group, suggesting that e-mail surveys may be useful for collecting more qualitative information.

Ravelli conducted a pilot study of an online assessment with 5 volunteered faculty courses. Separate focus groups of the students and faculty members were also conducted in this study to further explain the findings.<sup>22</sup> Fewer than 35% of students completed the online survey. Researchers discovered the students' favorite instructor received the lowest number of assessments. However, student focus groups provided the authors with an explanation for this behavior: "Students expressed the belief that if they were content with their teacher's performance, there was no reason to complete the survey [in any format]." Thus, it was interpreted that the lack of student participation may be an indication that the teacher was doing a good job and not the reverse. During the faculty focus groups, the authors found "faculty were equating the number of assessments with their teaching performance, and this interpretation may have been misguided." The authors assert that the qualitative findings support that a low student response rate does not diminish the value of providing students access to the assessment.

The focus group resulted in other feedback from the students and faculty members about the online assessment, including the following positive aspects: the online tool was easy to use; the students liked the anonymity of the online evaluation; the students liked commenting on a class while still taking it; the online tool allowed them to offer more thoughtful comments than did the traditional, in-class, print-based teaching evaluations; and the students appreciated knowing the instructor/professor wanted to improve the course. Students also indicated several areas of concern: limited access to computers, difficulty remembering computer passwords, uncertainty about whether instructors really looked at the assessments, relevance of questions.

Remarks from the faculty focus group were also both positive and negative. Positive comments from faculty members included: they enjoyed participating in an open dialogue about teaching; the online tool made

teaching a reflective process (one faculty member stated that knowing you could be assessed daily gave one motivation for being prepared in class); it helped them to address student concerns in a proactive and constructive manner; and it allowed them to demonstrate that they practice what they preach. Faculty members suggested various areas for improvement in or voiced concerns about the online evaluation process: software must allow faculty members to alter the questions posed to students; faculty members should not associate the number of assessments with their popularity and/or teaching ability; faculty members should continually reinforce the online evaluation tool in class; and the teaching assessment culture for students and faculty members should be changed to one that is more dynamic and constructive.

The St. Louis College of Pharmacy compared the traditional paper and pencil format with online evaluation in a study consisting of 169 students in a multiple-lecturer pharmacotherapy course.<sup>23</sup> Fifty students were randomly chosen to complete the exact same survey online, and the remaining 119 students completed the traditional paper evaluation. Students completed the course survey after each of their 4 examinations during the semester. Study findings revealed the following: (1) students using the online survey submitted more comments, and the total number of words typed per student using the online system was more than 7 times that of student using the traditional system; (2) students spent approximately 10 minutes or less on the online evaluation versus 25 minutes on the paper evaluation; and (3) staff workload decreased from approximately 30 hours spent compiling scores and comments from the paper survey to 1 hour spent downloading scores and comments from the online survey. The authors determined that the benefits of a decreased staff and student workload as well as timely reporting of the feedback data were beneficial and they hoped to expand the use of online surveys throughout their curriculum.

### **Studies About Response Rate**

Dommeyer conducted a study comparing student response rates on paper course evaluations with those that were collected online.<sup>24</sup> This study also compared incentive methods for each format. Sixteen professors from a variety of departments within the College of Business participated in the study. The instructors were randomly assigned to 1 of 3 online treatments or to a control group. The online treatments were: (1) a very modest grade increase (a fourth of a percent) for completing the online evaluation; (2) an in-class demonstration of how to log on to the website to complete the

online evaluation (although participants completed it outside of class); and (3) early feedback on their course grade (by postcard and/or posting grades online) if 67% of the class completed the online method. The use of the online evaluation format was lower (29%) than use of the in-class evaluation method (70%). However, when any type of grade incentive (grade increase or early grade reporting) was used, the online response rate was comparable to the response rate by the paper method.

At Brigham Young University, Johnson studied online student ratings and response rates for 3 years beginning in 1997.<sup>25</sup> Response rates were 40% in 1997, 51% in 1998, and 62% in 1999. There was a 71% return rate for paper evaluations in 1998. The evaluations spanned multiple classes and sections and ranged from 3076 to 8285 students. Findings were as follows: (1) low response rates were not negatively biased; (2) the length of the evaluation did not appear to be a factor in completing the evaluations, although there would undoubtedly be a threshold; and (3) students were more likely to respond if they believed ratings would be used for decisions about courses and faculty members. In 1999, written comments were included in 63% of evaluations completed online and in 10% of evaluations completed on paper. The author discussed various strategies to increase response rates including faculty members taking the following actions/doing the following: (1) encouraging students to complete the evaluations; (2) providing explanations of how the evaluations are used; (3) counting the evaluation as an assignment; and (4) withholding early access to grades.

Thorpe investigated nonresponse bias in a study to determine the following: (1) whether significant differences existed between students' responses to a traditional paper in-class evaluation method and an online course evaluation; and (2) whether nonresponse bias existed toward the online evaluation method. The study used a 23-item Likert scale instrument in 3 large classes: computer science (CS), math, and statistics.<sup>17</sup> The response rate of students in the CS class was 45% for the online evaluation method vs. 37% for the in-class evaluation method, the class response rate in math was 50% online evaluation vs. 44% in-class evaluation, and the response rate in the statistics class was 37% online evaluation vs. 70% in-class evaluation. Nonresponse bias was compared using the following demographics: gender, minority status, grade received in the class, and grade point average (GPA). Aggregate results of the nonresponse bias revealed that women were significantly more likely than men to complete the online evaluation. No significant differences were found in response rates between

minority and nonminority students in any of the classes. Academic performance was related to response rate, indicating that students who earned higher grades or higher GPAs were more likely to complete the evaluation online. The evaluation responses between in-class, paper-based methods were not significantly different in the survey items. Thorpe concluded, "similar to other studies of respondents and non-respondents to online surveys, this study also found that some students are more likely to respond to an online course evaluation survey than others. For this institution, female students were significantly more likely to respond to the web-based course evaluation survey than men. More importantly, students performing poorly academically were less likely to respond to the online course evaluation process. However, it should be noted that these students may not complete in-class evaluation instruments either." Thorpe suggested that concerns about low response rate and the potential for nonresponse bias for online course evaluations might not be warranted. Based on this study, Thorpe advises faculty members and administrators who are considering an online course evaluation method to replicate his study to determine the potential effects on their respective campuses.

The University of Colorado College of Pharmacy (UCCOP) developed and implemented an online assessment system for obtaining student feedback and perceptions about the courses and overall curriculum.<sup>26</sup> Objectives of the new system included: (1) developing specific online assessment tools for different types of courses (ie, didactic versus experiential); (2) developing a policy to ensure 100% response rate; and (3) evaluating the impact of pooling responses from students using the online system with student responses using a written format. The study revealed response rates ranging from 74% to 100%. There was no difference in written comments between the online and written responses. The online method allowed more timely dissemination of reports. Finally, the major challenge was the administrative workload involved in the process.

#### **Status at Other Pharmacy Schools/Colleges**

In addition to an extensive literature review, from July 2003 to October 2003 correspondence was conducted with several individuals at 6 US colleges and schools of pharmacy concerning their use of online course evaluations. These colleges and schools of pharmacy were selected because, during previous conferences or conversations, they had indicated increased use of technology within their courses and programs. Therefore, it was believed they might also be using more online course

evaluations than other colleges of pharmacy. Four of the colleges and schools responded about having an online evaluation process. Their replies discussed response rates, methods to motivate students, and the evaluation processes used within their college or school. These findings are presented below. Two other schools responded but because they had already published their data, they were included in the literature review section of this paper.

#### **University of Oklahoma, College of Pharmacy.**

The University of Oklahoma, College of Pharmacy (UOCOP) began using an online course evaluation system in 2001 (M. Medina, EdM, October 3, 2003). They were using the *CourseEval* software (Academic Management Systems, Amherst, NY) and were pleased with it. The faculty members appreciated the online process because they received results quickly. Students liked the process, but their response rate fluctuated. Initially they had very high response rates; however, subsequent response rates dropped. Faculty members attributed this decreased response rate to the length of the evaluations (40 questions). The College planned to discuss ways to decrease the number of questions, as well as how to motivate students other than by punishment or reward.

**Shenandoah University, Bernard J Dunn School of Pharmacy.** The Bernard J Dunn School of Pharmacy at Shenandoah University had used online course evaluations for 5 years (R. Stull, PhD, October 1, 2003). They used *Perception* testing software (Question Mark Corporation, London, UK) and administered and analyzed input with *QuestionMark* (Question Mark Corporation, London, UK). Students were required to have laptop computers. When Shenandoah began the process, students initially were asked to do the evaluations outside of class time, but the response rate was low. The response rate improved (close to 100%) when students were allowed to complete the evaluations during class time. On evaluation day each student received a slip of paper with a username and password for the particular course. Responses were anonymous, so students tended to answer the questions. The evaluations were conducted at least once per semester and were done as often as a faculty member requested.

**University of California-San Francisco, School of Pharmacy.** The School of Pharmacy at University of California-San Francisco (UCSF) had been conducting online surveys in some courses for about 2 years using *CoursEval* software (Academic Management Systems, Amherst, NY); however, some of the classes were still using the bubble-sheet paper evaluation forms (C. Cullander, PhD, September 25, 2003). The software allowed them to conduct didactic and experiential evalu-

ations online. Online evaluations seemed to elicit more comments from students than previous methods. They had implemented an incentive to motivate student participation: the Class graduation dinner and party were paid for if the students completed 90% of their course evaluations. The competition and reward eventually became part of the School's culture. Class officers contacted students who had not completed their evaluations at 3 intervals during the evaluation period and reminded them to comply. Response rate decreased somewhat as the students moved through the curriculum, and the "mood" of the class was a strong factor in determining whether they met their goal of 90% compliance. Only one Class had not made the 90% threshold (they completed 87% of the evaluations); this occurred during the didactic quarter of their last year before starting their advanced experiences.

**University of Florida, School of Pharmacy.** The University of Florida School of Pharmacy had been using an online course evaluation process for more than 2 years (D. Ried, PhD September 2003). They used in-house software developed and maintained by their IT group. Students were required to complete course and instructor evaluations for all of the courses within the School. Students received a written rationale about the evaluations informing them that "...they will receive an incomplete grade until the evaluation is submitted." Because of the disincentive of receiving an incomplete grade if they did not participate, the School had nearly a 100% response rate. The first year of implementation, they assigned many incomplete grades; however, this had decreased to almost none. Throughout the semester, students received e-mail reminders requesting that they complete the evaluation for each course during a particular time period. Their responses were confidential and anonymous; however, a tracking system indicated whether the evaluation had been completed. The Assistant Dean stated that the School now had a "culture" for completing all assessments online and he was receiving fewer complaints. He also commented that it appeared that students were submitting more thoughtful (useful) comments than with previous paper formats.

#### **CASE STUDY: ONE COLLEGE'S APPROACH**

Based on the findings from the extensive literature review and informal surveys of programs used by other colleges and schools of pharmacy, the University of Kentucky College of Pharmacy began development of an online evaluation system. Prior to the study, the University of Kentucky College of Pharmacy (UKCOP) used a paper evaluation format created by the University's Office of Institutional Research, Planning

and Effectiveness, which provided the forms to participating departments and colleges each semester. This office is responsible for preparing and delivering the teacher/course evaluations throughout the 11 major academic units on the campus. This office employs 1 part-time person to coordinate these evaluations for all units on the campus. The director had been contemplating the use of an online evaluation process and enthusiastically endorsed the College of Pharmacy's initiation of a pilot-study exploring this format.

These course evaluations have been the subject of a number of conversations at faculty and curriculum committee meetings at the UKCOP over the last several years. Faculty members have raised several concerns about the current paper format. One concern is the timeliness of feedback from the course evaluation. The time required to process the large number of evaluations at the end of each semester at a major university and the necessity to type students' handwritten comments to maintain confidentiality has caused a delay (approximately 3 to 4 months) in reporting the results to faculty members. This process negates any timely formative feedback that would enable faculty members to improve their teaching effectiveness in the classroom. Another concern among faculty members is the impact that student evaluations have on promotion, salary, and tenure decisions. Faculty members clearly agree with using student feedback; however, they are not comfortable with using student evaluations as the only method of evaluating teaching. Obviously, concerns by faculty members at UKCOP are quite similar to concerns expressed in the literature by faculty members at other schools and colleges, both in higher education in general and in pharmacy education.<sup>26-28</sup>

In August 2003, UKCOP's curriculum committee requested that the College's Office of Education Innovation (OEI) investigate a more efficient course evaluation process. Reasons for investigating online course evaluation processes at UKCOP were as follows: (1) student feedback could be analyzed automatically; (2) faculty members could receive feedback, including comments, in a more timely fashion; (3) students could complete the evaluations as early as possible, especially for those classes in which they only see the instructor(s) for a few weeks; (4) students would have time to give more thoughtful comments; and (5) the data could be available electronically (for later evaluation as needed). The OEI reviewed the literature, examined a variety of online software, and contacted other schools and colleges of pharmacy to learn what methods they employed for course evaluation.

A pilot study was conducted to compare online course evaluation with traditional paper format. The UKCOP cur-

riculum committee discussed several issues pertaining to the use of online course evaluations within the college. First, since the current paper format evaluation was distributed and collected during a regular class period when students were present, one major concern was a potential decrease in response rates because completion of the online evaluations outside of classroom time would be dependent upon student initiative. Of particular concern was the impact that potentially low response rates for non-tenured faculty members might have on the tenure and promotion process. A second concern and high priority was maintaining anonymity of student responses while still being able to track who had not completed a particular survey.

## **METHODS**

In the fall semester of 2003 an online evaluation containing the standard university-wide questions was prepared and pilot-tested in 1 required course from each of the 3 professional years (PY1, PY2, and PY3) of the pharmacy curriculum. These 3 required courses were selected from faculty volunteers in each of the 3 professional years (didactic years of the curriculum). The remaining courses from each professional year were evaluated using the University's standard paper process. Both the online and the paper course evaluations used a 21-item, Likert-scale survey that contained the standard University statements. The survey statements included questions about student demographics, the course (8 items), the instructor (6 items), the learning outcomes (5 items), and 2 overall summary items. In addition to the individual course evaluations, a survey of students' perceptions comparing online versus paper format was conducted.

### **Software**

*Blackboard* (Blackboard, Inc., Washington, DC) course management software was used to pilot the online evaluations. The rationale behind the decision to use this software was threefold. First, the University already provided and supported *Blackboard* as the course management software system. Since there were only a few weeks to implement the pilot study for the chosen semester there was little time to learn new software. Second, the students were already familiar with *Blackboard* because they used it in at least one of their core courses each professional year. Third, *Blackboard's* survey feature allowed tracking of which students completed the surveys while maintaining the anonymity of individual responses.

## **RESULTS**

The 3 pilot online required course evaluations yielded response rates of 85%, 89%, and 75% in the respec-

tive PY1, PY2, and PY3 courses. Nine required courses that involved 28 different instructors (4 of the instructors taught in more than one course) were evaluated using the paper format. The average student response rate for these 9 courses was 80% and was consistent with the response rates for the 2 previous years, which were 80.6% (2001) and 80.8% (2002). Moreover, comments provided in the online evaluations were on average more frequent and lengthy than those handwritten on the paper forms.

### **Issues**

Several issues of practicality that surfaced during the pilot study had implications for development of future online evaluations. Although *Blackboard* provided an easy and secure means of delivering the evaluations online, there were several disadvantages. The main drawback was that the data were not extractable for analysis. Raw scores and percentages were reported, but they had to be hand-entered into a spreadsheet in order to calculate means and standard deviations used in the final report to faculty members. A second problem with *Blackboard* was the inability to group questions into categories and the resulting inefficiencies encountered in creating multiple evaluations for the different courses. For example, the paper evaluation was divided into sections labeled, "Course Items," "Instructor Items," and "Lab Only," with instructions to students to complete when applicable. The problem occurred with the online evaluation when an instructor for a particular course was to be evaluated on "Instructor Items" and "Lab Only," while the course coordinator in the same course was to be evaluated on the "Course Items" and "Instructor Items." Since *Blackboard* does not contain a logic function that would allow students to skip certain questions, it was necessary to set up multiple evaluations to cover all the existing situations in which an instructor might be involved in a course. Although the process may have appeared seamless from the perspective of students and faculty members, considerable administrative time was required to monitor student progress, send e-mail reminders, enter and tabulate data, and create the reports for the faculty members. Also, the academic ombudsman of the University required that the online evaluations for a specific course could not be contained within the existing *Blackboard* course files for that course since the faculty member teaching the course would have access to them. Thus, unique "courses" in which to place the evaluations were created within *Blackboard*. The extra time needed to create those additional online "courses" and individually "enroll" all the students increased the workload.

Finally, this study considered the comparative costs of the paper and online evaluation processes. The

University's costs to implement the paper course evaluations for 11 academic units on the campus included \$12,000 for materials, \$250 for delivery, and the wages of 1 part-time (50%) employee. The cost of the online process involved the time of 1 administrative staff member to convert the 3 pilot course evaluations to the *Blackboard* format and prepare the reports (14 hours). In addition to the costs incurred by the University, the estimated cost to the College of Pharmacy to administer the paper evaluations in the fall semester for the other 9 courses was 82 hours of staff time.

### **Student Perceptions**

Following completion of the *Blackboard*-based pilot study evaluating 3 courses, a survey was conducted to learn student perceptions about the online course evaluation process versus the traditional paper format. This survey was created and administered using online survey software: *SurveyMonkey* (SurveyMonkey.com LLC, 1999-2000, Madison, WI). The survey instrument was given to students in January 2004 during the first week of the spring semester. A link to the survey was e-mailed to all PY1, PY2, and PY3 students with an explanation of its purpose and instructions on how to take it. Students were only given 1 week (without a reminder) to complete the survey so that it would not interfere with the spring semester courses.

### **Student Survey Results**

The survey was completed by 59% of the PY1, PY2, and PY3 students. Students believed the online format allowed them to provide more effective (>79% agree to strongly agree) and more constructive feedback (>75% agree to strongly agree) than the paper format. Also, students preferred the online evaluation format over the traditional paper format (>90% agree and strongly agree). Their comments included:

"The online evaluations allowed me to think about what I was going to comment on; also it was much more convenient."

"I think the online evaluations are a much better gauge of how we feel about the class. One suggestion is that we not have just one evaluation at the end of the semester because we tend to forget things we like/dislike about the lecturers/material early in the semester....our classes are broken up into blocks of material with different lecturers for each section. It may be beneficial to complete a survey after each instructor finishes his/her section."

Several students who were afforded the opportunity to complete the online evaluation and chose not to complete it indicated on the survey that they either missed the

deadline or accidentally deleted the link to the evaluation. Another possible reason for failure to complete the evaluation was that students were given only 1 week following their return from the fall semester break to complete the evaluation and a reminder was not sent to them.

### **Faculty Perceptions**

The instructors in the 3 pilot-test courses were asked several questions to determine their perceptions of the online process. Responses to these questions are listed in Appendix 1. Their responses appear to be consistent with the advantages that are reported in the literature section of this paper.

### **Lessons Learned**

Having completed the pilot study and an extensive literature search, 4 criteria were established by the College for conducting effective and efficient online course evaluations. The requirements were (1) an easy format for creating and editing evaluations; (2) student online access to evaluations that maintained their anonymity upon submission yet could be tracked for completion; (3) a mechanism for sending automatic e-mail reminders; and (4) good statistical reporting.

Following the success of the online evaluation pilot study in fall 2003, the faculty of the UKCOP voted to conduct all course and instructor evaluations online for the spring 2004 semester. It became evident that although the existing course management system (*Blackboard*) would not fulfill all these requirements. For example, the course management system did not have the necessary statistical reporting features. Thus, the administrative effort needed to overcome these deficiencies warranted more time than was necessary with an appropriate software package. A decision was made to secure an online course and instructor evaluation software package.

Due to time constraints, an interim choice of a software provider, *SurveyMonkey*, was selected as the format for the spring 2004 semester evaluations until another software source could be identified and purchased. Although this was available to the college for a minimal fee and had been used for a previous survey, it lacked the anonymity and tracking features along with the desired statistical reporting capabilities.

The College purchased and began using the *CoursEval* software in the fall semester 2004 as the online course evaluations system. The software appears to meet the established criteria. From discussions with other colleges and schools that have used *CoursEval*, the special features the software provides and elimination of the

administrative costs incurred with previous systems are expected to far outweigh the initial cost of the software.

Furthermore, as a measure to ensure that response rates remain high for future course evaluations, faculty members decided to make completion of the course evaluations mandatory for each class. They included this requirement in their syllabi for spring 2004 and indicated that noncompletion of an evaluation would result in a grade of incomplete (I) for the course. To fulfill this requirement, students were given the option to either complete or not complete the evaluation when they logged into the first screen of each online course evaluation. If they chose not to complete the evaluation, they were automatically linked to a screen where they were asked to provide a brief reason why they did not wish to complete it. Once any text was entered they could submit their response. Students electing this option were not penalized, and the tracking feature could still measure the response rate. Results of the Spring 2004 online evaluations revealed that less than 8% of the students in each class elected not to complete the evaluation, and they stated that time was a factor. Throughout the spring semester for each online evaluation, students were given 7 days to complete each evaluation and sent 2 reminders; thus, procrastination may have been a factor. This did not introduce a negative bias for those students who were simply unwilling to complete the evaluation, because students were only required to access the online course evaluations.

## CONCLUSIONS

A number of lessons can be learned from the literature and from information provided by pharmacy schools and colleges about online course evaluations. There are clear advantages to using an online method for evaluations. Online evaluations appear to provide more effective methods of gathering constructive feedback than traditional paper-based methods and students can complete the surveys in a more efficient manner. The majority of students prefer not using class time for evaluations, and they suggest that their comments are more thoughtful and purposeful when completed outside of class. Because of quick and easy access to final reports online, faculty members can evaluate student comments while they are still current and make timely, positive adjustments to their course structure or teaching methods. When a completion incentive is implemented, student response rates improve dramatically over those for traditional evaluation methods.

This College will continue to examine several areas regarding use of online evaluations. First, the College has elected to use incomplete course grades as an incentive and will continue to watch for any potentially detrimental

effects in the future. The College will examine several issues including the following: number of students who opt not to take the evaluations; whether student comments begin to decline in number or decrease in richness of constructive thought; and whether a change in the rate of student complaints occurs in direct response to the number of evaluations they are required to complete on their own time. Finally, the college will analyze the advantages and disadvantages of using the new software system.

When establishing an online course evaluation system, one issue that must be addressed is the importance of ensuring anonymity and confidentiality. Selection of software with capabilities of tracking students for completion while maintaining their anonymity is extremely important. Another component to consider for successful online evaluations is student computer capabilities and access. Although most students have access to computers from home or school, often there can be software compatibility issues that cause problems. It is best to address these potential challenges with students prior to establishing online course evaluations in order to avoid any undue frustrations.

Focus groups with students and faculty members involved in goal-oriented conversations can help to promote a process of meaningful, constructive evaluation. Developing a culture of assessment among faculty members and students is crucial for encouraging an atmosphere of openness and willingness to strive together toward improving teaching and learning.

## ACKNOWLEDGEMENTS

The authors wish to express special thanks to the schools and colleges of pharmacy who provided information about their online systems. The authors also express their sincere gratitude to Stephanie Aken for her library assistance in completing the literature indexing search for this paper. The authors also wish to thank the 3 college professors who volunteered their class for the pilot study in the 2003 fall semester: Drs. Tom Foster, William Lubawy, and Peggy Piascik. Finally, the authors also wish to thank Belinda Morgan for editorial assistance on this manuscript.

## REFERENCES

1. Haskell R. Academic freedom, tenure, and student evaluation of faculty: galloping polls in the 21st century. *Educ Policy Analysis Arch.* 1997;5(6). Available at: <http://epaa.asu.edu/epaa/v5n6.html>
2. Knapper C, Cranton P. Fresh approaches to the evaluation of teaching. new directions for teaching and learning. 2001;88:1-2.
3. Hutchings P. Making Teaching Community Property: A Menu for Peer Collaboration and Peer Review. Washington, DC: American Association for Higher Education; 1996.
4. Centra JA. *Reflective Faculty Evaluation*. San Francisco: Jossey-Bass; 1993.



*American Journal of Pharmaceutical Education* 2005; 69 (1) Article 5.

5. Paulsen MB. *Evaluating Teaching Performance. New Directions for Institutional Research.* Jossey-Bass, 2002:114:5-18.
6. Centra JA. Student ratings of instruction and their relationship to student learning. *Am Educ Res J.* 1977;14:17-24.
7. Cohen PA. Student ratings of instruction and student achievement: A meta-analysis of multi-section validity studies. *Rev Educ Res.* 1981;51:281-309.
8. Koon J, Murray HG. Using multiple outcomes to validate student ratings of overall teacher effectiveness. *J Higher Educ.* 1995;66:61-81.
9. Marsh HW. Student's evaluation of university teaching: Dimensionality, reliability validity, potential biases, and utility. *J Educ Psychol.* 1984;76:707-54.
10. Marsh HW. Students' evaluation of university teaching: Research findings, methodological issues, and directions for future research. *Int J Educ Res.* 1987;11:253-388.
11. Marsh HW, Dunkin MJ. Students' evaluations of university teaching: A multidimensional perspective. In: Smart JC, ed. *Higher Education: Handbook of Theory and Research.* Vol 8; 1992:143-233.
12. McKeachie WJ. Research on college teaching: The historical background. *J Educ Psychol.* 1990;82:189-200.
13. Murray HG, al. e. Teacher personality traits and student instructional ratings in six types of university courses. *J Educ Psych.* 1990;82:250-61.
14. Ramsden P. A performance indicator of teaching quality in higher education: The course experience questionnaire. *Studies Higher Educ.* 1991;16:129-50.
15. Seldin P. Student evaluation of college teaching effectiveness: A brief review. *Assess Eval Higher Educ.* 1998;23:191-212.
16. Hmieleski. Barrier to online evaluation: Surveying the nation's top 200 most wired colleges. Troy, NY: Interactive and Distance Education Assessment Laboratory at Rensselaer Polytechnic Institute; 2000.
17. Thorpe SW. Online student evaluation of instruction: An investigation of non-response bias. Paper presented at: 42nd Annual Forum for the Association for Institutional Research, 2002; Toronto, Ontario, Canada.
18. Woodward DK. Comparison of course evaluations by traditional and computerized on-line methods. *Am J Pharm Educ.* 1998;62: 90S.
19. Dommeyer CJ, Baum P, Chapman KS, Hanna RW. Attitudes of business faculty towards two methods of collecting teaching evaluations: Paper vs. online. *Assess Eval Higher Educ.* 2002;27: 455-62.
20. Layne BH, DeCristofor JR, McGinty D. Electronic versus traditional student ratings of instruction. *Res Higher Educ.* 1999;40:221-32.
21. Paolo AM, Bonaminio GA, Gibson C, Partridge T, Kallail K. Response rate comparisons of e-mail and mail-distributed student evaluations. *Teach Learn Med.* 2000;12:81-8.
22. Ravelli B. Anonymous online teaching assessments: Preliminary findings. Paper presented at: Annual National Conference of the American Association for Higher Education; June 14-18, 2000; Charlotte, North Carolina.
23. Kasiar JB, Schroeder SL, Holstad SG. Comparison of traditional and web-based course evaluation processes in a required, team-taught pharmacotherapy course. *Am J Pharm Educ.* 2001;63:268-70.
24. Dommeyer CJ, Baum P, Chapman KS, Hanna RW. An experimental investigation of student response rates to faculty evaluations: The effect of the online method and online treatments. Paper presented at: Decision Sciences Institute; Nov. 22-25, 2003; Washington, DC. Available at: <http://www.sbaer.uca.edu/research/dsi/2003/procs/451-7916.pdf>
25. Johnson T. Online student ratings: Will students respond? Paper presented at: American Educational Research Association Annual Meeting, 2002.
26. McCollum M, Cyr T, Criner TM, et al. Implementation of a web-based system for obtaining curricular assessment data. *Am J Pharm Educ.* 2003;67:1-3.
27. Barnett CW, Matthews HW. Current procedures used to evaluate teaching in schools of pharmacy. *Am J Pharm Educ.* 1998;62:288-391.
28. Grussing PG. Sources of error in student evaluation of teaching. *Am J Pharm Educ.* 1994;58:316-8.

Appendix 1. Faculty Perceptions of the On-line Course Evaluation Process

*Scale: 1 = Strongly Disagree; 2 = Disagree; 3=Agree; 4=Strongly Agree*

<b>Statement</b>	<b>Mean</b>
1. The online method takes less class time to administer.	4.0
2. The online method offers convenience to students.	3.7
3. The online method is more likely to result in negative evaluation of professors.	1.7
4. The online method is more likely to result in an accurate evaluation of a professor's teaching performance.	3.0
5. The online method makes it less likely that a professor will influence students' answers.	3.0
6. The online method is easier for faculty to use.	3.0
7. The online method offers quicker reports to the faculty.	3.7
8. Were the results from the online assessment useful for improving teaching? If so, please explain. Yes, had more thorough and thoughtful students. I found that the online assessment very useful in trying to improve the courses I have responsibility for coordinating. The responses provided by students are "rich" and do provide a fresh look at what works and what doesn't. There did seem to be an excessive amount of "venting" negative comments and this surprised me a little. I hope that we will continue using this process and that the faculty endorse the use for all classes. Yes, by getting the feedback quickly, I could review the student's suggestions and concerns while I still remembered what we were talking about. I could make notes on things I want to change for the next time the course is taught.	
9. Did using the online assessment tool inspire faculty and students to view the course and/or teaching from a new perspective? Please explain. Not sure. I hope that it did. We spent an appreciable amount of time discussing the value of this process with the students and I think they were able to see some of the actions taken from the assessment process. We need to consider whether it would be reasonable to prepare some kind of summary of the comments from the evaluative process for student view. I think students liked providing feedback while each instructor's teaching was still fresh in their minds. They provided a great deal more written comments that could be useful to the faculty in reviewing and planning revisions to the course. By spreading out the time frame across the semester, students aren't "burned out" from a week of filling out evaluations and they provide better comments.	
10. What did you feel were the strengths of using the online method? Rapid return of results; less hurrying on the part of students; more convenient for students; higher percentage of students participating (when in class - sometimes 40-50% of class absent). Greatest strength was use of a tool that could be individually responded to at a time and place of student choosing, rather than in a hectic classroom environment with multiple evaluations being carried out in a very short time interval. Class time saved; easy for students to complete in a timely manner; rapid return of results to faculty.	
11. What did you feel were the weaknesses of using the online method? I do not see any. The electronic environment may offer the individual respondent too much flexibility and ease in responding free of any repercussions. Faculty will need to be careful about how they interpret and respond to the reviews. A small number of students believe the process is not truly anonymous; someone has to track who has completed the evaluations and remind the students. Fortunately, staff have been doing this and faculty don't need to worry about it.	
12. Other comments: Really a nice change in our procedures. I would hope that if we continue the use of the electronic course evaluation process that we make sure to have some kind of tutorial to prepare the students and the faculty for the process. What will the faculty actually see from the process? Will they see the entire data set of responses or an edited version? Should there be an executive summary of the course review for the students and faculty? Should we consider a process to track the successes and failures of the process, if adopted, so that we can ensure that the assessment maintains credibility? I liked the process. The process went smoothly for faculty and students. It was much less work for both groups with a better and more rapid outcome.	