

Enhancing the Quantity and Quality of Student Comments on Teaching Assessment Tools

Jill T. Johnson
Cindy D. Stowe
Mildred A. Savidge
Stephanie F. Gardner

ABSTRACT. The purpose of this study was to increase student participation in written evaluation of teaching effectiveness in a team-taught course. Three consecutive academic years were evaluated (retrospective data: 1997-1998 and 1998-1999; prospective data: 1999-2000). Study interventions included providing student orientation, changing the timing of administration of tools for student assessment of teaching, and implementing a new tool with a structured, open-ended, written comment section. The rate of student participation was increased from $67.6\% \pm 14.8$ to $86.6\% \pm 6.1$ ($p < 0.0005$). The percentage of tools with written comments was significantly increased ($16.4\% \pm 8.0$ to $50.4\% \pm 14.2$; $p < 0.000005$). The quality of written comments was improved with a structured comment section (83.5% versus 77.6% unstructured; $p < 0.05$). In

Jill T. Johnson, Pharm.D., BCPS, Cindy D. Stowe, Pharm.D., and Stephanie F. Gardner, Pharm.D., are in the Department of Pharmacy Practice, College of Pharmacy, University of Arkansas for Medical Sciences, Little Rock, AR. Mildred A. Savidge, Ph.D., is in the Office of Educational Development, University of Arkansas for Medical Sciences.

Address correspondence to: Jill T. Johnson, Pharm.D., BCPS, Department of Pharmacy Practice, 4301 West Markham Street/Mail Slot 522, Little Rock, AR 72205 (E-mail: johnsonjillt@uams.edu).

Data were presented in part as a poster presentation at the 2000 Annual AACP Meeting in San Diego, CA.

Journal of Pharmacy Teaching, Vol. 11(1) 2003
<http://www.haworthpress.com/web/JPT>
© 2003 by The Haworth Press, Inc. All rights reserved.
Digital Object Identifier: 10.1300/J060v11n01_03

summary, student participation and the quality of written comments in evaluations can be improved with interventions focused at facilitating the ease of participation, orienting students to the evaluation process, and directing students with structured, open-ended items. [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <<http://www.HaworthPress.com>> © 2003 by The Haworth Press, Inc. All rights reserved.]

KEYWORDS. Assessment, teaching evaluations, teaching effectiveness

INTRODUCTION

Student evaluation of faculty teaching has traditionally served as one of the primary forms of teaching assessment. Student feedback may be in the form of Likert-scaled items or written comments. Student evaluation of teaching using traditional assessment tools with closed-ended items has been shown to be both reliable and valid (1, 2). However, the utility and volume of student written comments have not been described.

Many barriers may prevent faculty from collecting constructive written feedback from students during the evaluation process. These may include student apathy, poorly designed assessment tools, lack of student understanding of the teaching evaluation process, and the timing of the assessment (2, 3). Anecdotally, the authors of this paper believe that students perceive that their input has little impact on the curriculum, quality of teaching, or faculty advancement. It is important for students to understand how administrators and faculty members use their input to confirm the value of their thoughtful written comments on the teaching assessment tool.

The teaching evaluations, when used in combination with peer evaluations, may be used in teaching portfolio development, administrative review processes, and promotion and tenure decisions. Students who clearly understand the importance of faculty teaching evaluation and the potential impact of their constructive feedback may be more willing to participate fully in the process. The medical literature suggests that it is beneficial to provide orientation to students on the provision of constructive criticism in the context of teacher evaluation (3).

Tools for student assessment of teaching used in colleges of pharmacy have been summarized (4). The tools have commonly contained

an area for general comments. Only one-third of the reviewed tools used open-ended or a combination of open-ended and closed-ended items (4). Another survey of college of pharmacy tools used for student assessment of teaching found limited use of open-ended questions on didactic teaching assessment (5).

Team-taught courses present the greatest challenge to maintaining high levels of student participation. Poor participation in the evaluation process by students—defined as participation by less than two-thirds of the class—may lead to results that are not reflective of the entire class (6). Student motivation and logistical factors that may facilitate student participation must be considered to achieve a representative minimum level of student input. The objective of this study was to determine if the percentage and quality of written comments provided by students could be improved.

METHODS

Course Description and Student Evaluation Process

Therapeutics I and II are six-credit-hour courses offered consecutively starting in the fall of the third professional year. The courses consist of didactic lecture and a problem-based small group case discussion or recitation. These courses are divided into 5 modules of instruction per semester with up to 15 lecturers during any 1 semester. Students evaluate teaching effectiveness of all instructors who deliver at least three hours of lecture. The tool for student assessment of teaching has historically consisted of 14 items with a space for comments (Appendix A). These “old” tools were administered during the last 15-20 minutes of the last lecture hour before the modular examination.

Study Interventions

The investigators developed a new tool for student assessment of teaching (Appendix B). This new tool expanded the number of items from 14 to 28 and grouped the items by “module,” “instructor,” and “exam.” The Likert scale was changed to “strongly agree,” “agree,” “both agree and disagree,” “disagree,” or “strongly disagree” for each item. The closed-ended items on the new tool were modified from commonly occurring items on tools reviewed by the investigators (5). The items that appeared on the new tool were observed on at least a third of

the tools reviewed by Barnett and associates (4). The open-ended comment section of the new tool was structured to elicit comments from the students that instructors could use to improve their teaching.

Orientation was provided once in the fall of 1999 to all Therapeutics students in the 1999-2000 academic class regarding their participation in evaluating the teaching effectiveness of instructors at the beginning of the prospective data collection period. Students were given an overview of the administrative role that the tools for student assessment of teaching play in faculty evaluation. In addition, examples of both positive and negative constructive written comments were provided to the students. Finally, students were encouraged to provide constructive written comments on all completed tools.

During the retrospective phase of the study, tools for teaching assessment that were administered during the last 15-20 minutes of the last modular lecture prior to the modular examination were evaluated. However, during the prospective, intervention phase of the study, the tools were administered at the beginning of the next class after the modular examination. The class of students was randomly divided in half for both the fall 1999 and spring 2000 semesters. Half of the students (2 recitation sections, A and B) used the old 14-item unstructured teaching assessment tool, and the other half (2 recitation sections, C and D) used the new 28-item structured tool to evaluate each instructor.

Data Collection

A single-blind retrospective and prospective analysis of student evaluations was performed. Investigators were blinded to the identification of faculty members. Data collected from the tools included the number of tools turned in by students, the number of tools with written comments, and the quality of the written comments. Two investigators evaluated the written comments independently for quality. The investigators who evaluated the written comments were trained in methods of assessment and faculty evaluation. The quality of written comments was categorized as "constructive," "inappropriate," or "neutral" (neither constructive nor inappropriate) based on their subjective judgment. Kaslar has recently used a similar subjective assessment of quality of written comments (7).

Retrospective data from the tools for student assessment of teaching were collected for the following semesters: fall 1997, spring 1998, fall 1998, and spring 1999. Prospective data were collected from the tools for student assessment of teaching during the fall 1999 and spring 2000 semesters.

Finally, instructors who were evaluated during the 1999-2000 academic year were asked to fill out a questionnaire to determine which tool, old or new, they found the most beneficial in helping them improve their teaching.

Data Analysis

The statistical analysis of data collected was performed using Microsoft Excel® and SYSTAT® 7.0 for Windows® software packages. Data were first placed in spreadsheets, and descriptive statistics were generated summarizing the data. Two-sample *t* tests and analyses of variance (ANOVA) were used to determine the significance of the study interventions given the level of student participation in student assessment of teaching. The Mann-Whitney *U* and Kruskal-Wallis (non-parametric data) tests were used to determine the significance of the interventions on the quality of student written comments. Data are presented as mean \pm SD. Statistical significance was set as a $p < 0.05$.

RESULTS

Demographics

Demographic data of faculty members and students who participated in this study are presented in Table 1. During the 3 consecutive academic years studied, 10 to 13 faculty member instructors were assessed per year in the Therapeutics courses. The class size ranged from 70 students in 1997-1998 to 74 students in 1999-2000. During the prospective period of evaluation (1999-2000), the old and new tools for student assessment of teaching were used.

Rate of Student Participation

Overall, the rate of student participation in instructor evaluation, regardless of the tool used, significantly increased following interventions (i.e., orientation to the evaluation process and changing the timing of tool administration) (Figure 1).

The average rate of tools completed, both old and new, per faculty member went from $67.6\% \pm 14.8$ before the intervention to $86.6\% \pm 6.1$ following the intervention ($p < 0.0005$). The percentage of tools with

TABLE 1. Instructor and Student Information.

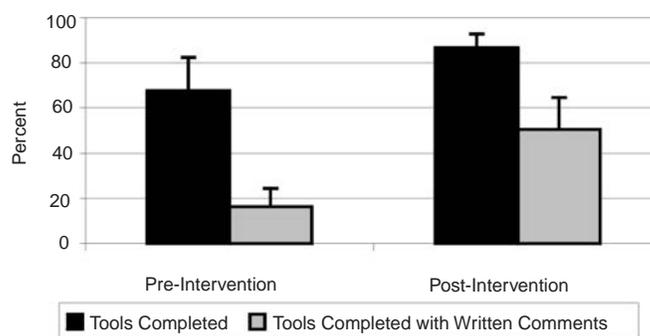
Academic Year	Instructors		Students		Tools	Conditions
	Male:Female (Total)	Years of Experience	Male:Female (Total)	Mean Age** Male:Female		
1997-1998	7:5 (12)	4.3 ± 0.9	22:48 (70)	23.4:23.1	Old	<ul style="list-style-type: none"> No student orientation Tool administration pre-exam last 10-15 minutes of lecture
1998-1999	7:3 (10)	5.4 ± 1.0	27:45 (72)	23.1:23.3	Old	<ul style="list-style-type: none"> No student orientation Tool administration pre-exam last 10-15 minutes of lecture
1999-2000	8:5 (13)	5.3 ± 2.3	29:45 (74)	23.1:23.5	*Old and New	<ul style="list-style-type: none"> Student orientation Tool administration post-exam first 10-15 minutes of recitation

Mean ± SD

*Half of the students in the course used either the old or new teaching assessment tool each semester.

**Age in years at admission to pharmacy school

FIGURE 1. Rate of Student Participation in the Teaching Assessment Process Pre- and Post-Intervention.



There was a statistically significant difference between the percentage of tools completed ($p < 0.0005$) and the percentage completed with written comments ($p < 0.000005$) when the pre-intervention group (1997-1998 and 1998-1999) and the post-intervention group (1999-2000) were compared. The above graphic data are represented as mean% \pm SD.

written comments also significantly increased from 16.4% \pm 8.0 pre-intervention to 50.4% \pm 14.2 post-intervention ($p < 0.000005$). There were no statistical differences found between assessment tool completion rates for individual faculty members.

Student participation in the teaching evaluation process appeared to wane from the fall to the spring semester without respect to the teaching assessment tool (Table 2). The average percentage of tools completed decreased significantly from the fall to the spring semester in the cumulative three-year study period ($p < 0.05$). The percentage of tools with written comments also appeared to decrease from the fall to the spring semester. However, the rate of tools completed with written comments was highly variable within the cumulative data, and no statistical significance was found.

The comparison of student participation between the two student teaching assessment tools during the post-intervention period, fall 1999 and spring 2000 semesters, yielded mixed results. Overall, there was no significant difference between the percentage of tools completed, either old or new, or the percentage with written comments (Table 3). However, there was a trend toward the new tool improving the rate of student participation in both the percentage of tools completed and the percentage with written comments. The new tool provided a statistically greater rate of written comments than did the old tool in the fall semester ($p < 0.001$), with no difference in completion rates between tools. In the

TABLE 2. Rate of Student Participation in the Teaching Assessment Process by Semester.

Year	Semester	Instructors	Teaching Assessment Tools Completed (% \pm SD)	Teaching Assessment Tools Completed with Written Comments (% \pm SD)
1997	Fall	5	66.3 \pm 14.4	18.6 \pm 8.8
1998	Fall	5	82.8 \pm 10.9	20.4 \pm 7.8
1999	Fall	6	90.8 \pm 3.8*	59.3 \pm 7.6#
Fall Cumulative		16	80.6 \pm 14.2*	34.4 \pm 21.3
1998	Spring	7	55.9 \pm 10.6	16.3 \pm 6.4
1999	Spring	5	70.0 \pm 11.1	10.4 \pm 8.2
2000	Spring	7	83.0 \pm 5.5*	42.7 \pm 14.4#
Spring Cumulative		19	69.6 \pm 14.7*	24.5 \pm 17.6

Mean \pm SD* $p < 0.05$, tool completion fall versus spring# $p < 0.05$, tool completion with written comments fall versus spring

TABLE 3. Rate of Student Participation During the 1999-2000 Academic Year by Semester and by Teaching Assessment Tool.

Semester	Tools	Instructors	Teaching Assessment Tools Completed (% \pm SD)	Teaching Assessment Tools Completed with Written Comments (% \pm SD)
Fall	Old	6	91.0 \pm 3.3	49.0 \pm 10.3#
Spring	Old	7	79.5 \pm 6.4*	46.5 \pm 11.8
Old Cumulative		13	84.8 \pm 7.8	47.6 \pm 10.8
Fall	New	6	90.7 \pm 5.4	69.8 \pm 6.1#
Spring	New	7	86.5 \pm 4.9*	39.4 \pm 18.1
New Cumulative		13	88.6 \pm 5.4	54.6 \pm 20.4

Mean \pm SD* $p < 0.05$ # $p < 0.001$

spring semester, the opposite was true; the rate of new tools completed was significantly greater than for the old ($p < 0.05$).

Quality of Written Comments

Given the limited number of written comments during the retrospective data collection period (pre-intervention), the overall quality of the

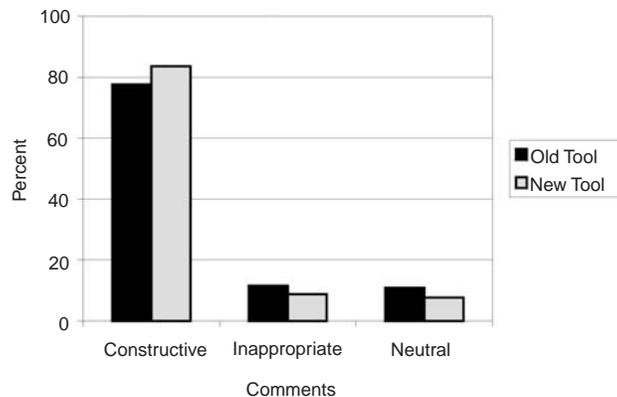
written comments pre- and post-intervention was not assessed. The old tool, with an unstructured written comment section, was compared to the new tool, with a structured written comment section, only during the 1999-2000 academic year. The new tool provided a greater percentage of constructive comments than the old tool (new tool = 83.5% versus old tool = 77.6%; $p < 0.05$; Figure 2).

Interestingly, the number of constructive comments was greater with the new tool (431 comments) than with the old tool (322 comments). The number of tools with comments also substantially decreased from the fall to the spring regardless of the tool used (563 comments in the fall and 184 comments in the spring). The rate of constructive comments was maintained between semesters for the new tool (83.9% in the fall and 81.1% in the spring); whereas the rate of constructive comments appeared to decrease for the old tool between the fall and the spring semesters (80.3% and 71.2%, respectively).

Instructor Questionnaire

The survey distributed to faculty members who had been evaluated by the students using both the old and new tools invited answers to two questions. The first question was, "In general, which tool for student assessment of teaching did you think gave you the most useful informa-

FIGURE 2. The Frequency of Constructive, Inappropriate, or Neutral Written Comments on the New and Old Teaching Assessment Tools.



The new tool showed a statistically greater percentage of constructive comments ($p < 0.05$) than did the old tool.

tion?" The second question was, "Which tool, the old or the new, provided you with the most useful written comments?" A section for general comments was also provided. Nine of the 13 instructors responded to the questionnaire. Eight of the nine instructors selected the new tool for both questions. One instructor was unable to differentiate any advantage of one tool over the other. Most of the instructors who responded indicated that they appreciated an increase in number and quality of comments elicited by the new tool.

DISCUSSION

Participation in student evaluation of faculty teaching in a team-taught course improved following the interventions of this study. Providing an orientation to students and changing the timing of tool administration appeared to have been responsible for the increased level of participation. Both the quality and quantity of written comments were improved using a tool for student assessment of teaching with structured, open-ended questions. The majority of faculty members believed the tool with structured, open-ended questions provided not only a greater number of comments, but also more constructive comments than the previous assessment tool.

Of the factors assessed in this study, the provision of an orientation for students on the evaluation process and the timing of the tool administration appeared to have the most consistently significant impact on improved student participation. The design of the study did not allow for the determination of which factor, orientation or timing, was more important in increasing student participation. It was thought that the impact of the new tool design did not solely account for this difference because a statistically significant difference in student participation between the old and new tools was not found during the academic year 1999-2000 when both were administered simultaneously. However, a trend toward the new tool increasing student participation was observed.

The lack of a statistically significant difference between the old and new tools regarding tool completion rate for the 1999-2000 academic year may be secondary to subject bias and/or student apathy. The novelty of the new tool decreased over time as was observed with the old tool (8). Subject bias was unavoidable because student assessment of teaching was conducted 13 times over the course of 2 semesters and students were randomly assigned to recitation groups each semester (8).

Upon analysis by semester during the 1999-2000 academic year, the level of participation was found to be equal between the two tools in the fall. However, there was a statistically significant increase in the percentage of tools with written comments for the fall as compared to the spring. The new tool was superior to the old tool in soliciting written comments, most likely secondary to the structured open-ended format of the comment section of the new tool. The rate of written comments on tools with open comment sections used in a team-taught course has been shown to be poor (9). Given the fact that recitation sections were reassigned each semester, there was a random mixing of students with and without experience using the new tool. Therefore, there were students during the spring semester in which the new tool was a novelty, resulting in increased student participation in the spring semester with the new tool. The lack of statistical significance between the percentages of tools with written comments during the spring semester was likely due to the same mixing of students with and without exposure to the new tool.

Student apathy or fatigue was manifested as a decrease in the level of student participation in the assessment of teaching effectiveness between the fall and spring semesters regardless of the teaching assessment tool used. The frequency of written comments also trended downward from the fall to the spring semester despite no change in class attendance. In an effort to maintain a consistent level of participation between the fall and spring semesters, the provision of additional student education at the beginning of the spring semester should be conducted.

The data collected regarding the quality of written comments appeared to support the use of the new tool. The greater number of written comments per tool, along with a greater percentage of these comments being of a constructive nature, substantiates the importance of structured, open-ended questions to elicit comments from student evaluators. The rate of constructive comments observed on the new tool was maintained between the fall and the spring semesters; whereas, with the old tool, the quality of written comments decreased from the fall semester to the spring semester.

The importance of the assessment of teaching by students has been well documented (1, 6, 10). However, there is little information in the literature describing written comments by students on didactic teaching assessment tools. A study summarizing teaching assessment tools in colleges of pharmacy found that 73.2% of the tools had an area for general comments and only 36.6% of the assessment tools included

open-ended items (4). A high level of student participation in this process is paramount to achieving an accurate representation of student opinion (6). In fact, for voluntary participation by students, two-thirds participation in rating instructors has been proposed as the minimum level of participation to yield a reasonable indicator of student opinions (6). This study provides information regarding interventions designed to increase student participation in one of the most difficult student teaching assessment environments, the team-taught course. Recently, a study using an assessment tool with Likert items and an unstructured general comments section found that the frequency of written comments ranged from 2.7%-16.5% (9).

Findings observed in the assessment of student participation in this team-taught course highlight the importance of several factors that should be considered when student participation is poor and when few constructive comments are obtained. First, students should be oriented to the instructor teaching evaluation process prior to the administration of the first assessment. This orientation should minimally consist of definitions and examples of positive and negative constructive feedback. Students should also understand how the faculty members and administrators use this feedback to improve overall teaching effectiveness. Presentation of examples of how past feedback has improved teaching effectiveness would be ideal in facilitating student understanding. Second, logistical constraints of class structure and design must be considered to determine the best timing for administration of tools for student assessment of teaching. Ample time should be allowed for thoughtful completion of the assessment tool. Ideally, assessment should be recent enough for students to remember specific instructors, at the beginning of a class rather than at the end of a class when students may be less alert, and at a time when students can provide informed opinions on all components of the tool. For example, it is imperative that a tool that attempts to elicit opinions on the fairness of an instructor's exam be administered to the student after the student has taken the exam. Third, the assessment tool itself should be reviewed to assure that it is designed in a way that encourages students to provide the faculty and administration with useful information. Lastly, follow-up with students regarding the level of their participation and quality of their comments should be considered in an effort to minimize student apathy and to reaffirm the administration and faculty's level of respect for student opinion.

CONCLUSION

We identified factors that influence the level of student participation and quality of written comments in the assessment of teaching effectiveness in a team-taught course. Orientation and timing of the administration of the tools to students appear to be the most important factors in improving student participation. A structured, open-ended comment section on the assessment tool provided an opportunity for increased meaningful student participation through written comments. Increasing the level and quality of student evaluation of teaching is expected to lead to a more accurate assessment of teaching effectiveness as well as a mechanism for improvement of teaching.

Received: September 3, 2001

Reviewed: January 9, 2002

Revised: February 27, 2002

Reviewed and Accepted: September 13, 2002

Revised: October 25, 2002

REFERENCES

1. Rotem A, Glasman N. On the effectiveness of student's evaluative feedback to university instructors. *Rev Educ Res.* 1979; 49:497-510.
2. Irby DM. Evaluating teaching skills. *Diabetes Educ.* 1985; 11:37-46.
3. Speer AJ, Elnicki DM. Assessing the quality of teaching. *Am J Med.* 1999; 106:381-4.
4. Barnett CW, Matthews HW. Current procedures used to evaluate teaching in schools of pharmacy. *Am J Pharm Educ.* 1998; 62:388-91.
5. Van Tyle JH. Minutes of the Council of Faculties business meeting: July 14, 1997, Indianapolis, IN. *Am J Pharm Educ.* 1997; 61:60S-2S.
6. Gein LT. Evaluation of faculty teaching effectiveness—toward accountability in education. *J Nurs Educ.* 1991; 30:92-4.
7. Kasiar JB. Personal communication. July 19, 2001.
8. Hulley SB, Cummings SR. Planning the measurements' precision and accuracy. In: *Designing clinical research: An epidemiologic approach.* Hulley SB, Cummings SR, eds. Baltimore: Williams & Wilkins; 1988:36-7.
9. Kasiar JB, Schroeder SL, Holstad SG. A comparison of traditional and Web-based course evaluation processes in a required, team-taught pharmacotherapy course. Paper presented at the ACCP Annual Meeting, Toronto, Canada, July 10, 2001.
10. Dennis LI. Student evaluations: Are they an appropriate criterion for promotion? *Nurs Health Care.* 1990; 11:79-82.

APPENDIX B.
New Tool for Teaching Assessment

5 = strongly agree; 4 = agree; 3 = both agree & disagree; 2 = disagree; 1 = strongly disagree; ○ Not applicable or No Opinion

Module:	
1. Objectives were clearly identified.	5 4 3 2 1 ○
2. Objectives were consistent with instruction presented.	5 4 3 2 1 ○
3. Objectives were met.	5 4 3 2 1 ○
4. Material was organized in a manner that facilitated learning.	5 4 3 2 1 ○
5. Assigned readings were useful learning aids.	5 4 3 2 1 ○
6. Audiovisual materials contributed positively to my learning.	5 4 3 2 1 ○
7. Example cases/questions contributed positively to my learning.	5 4 3 2 1 ○
8. Handout material was easy to follow.	5 4 3 2 1 ○
9. Instructor discussed current developments.	5 4 3 2 1 ○
10. Compared to all the other material/subjects I have had at UAMS COP, I would rate this material/subject as the 5 = MOST to 1 = LEAST interesting.	5 4 3 2 1 ○

5 = strongly agree; 4 = agree; 3 = both agree & disagree; 2 = disagree; 1 = strongly disagree; ○ Not applicable or No opinion

Instructor:	
11. Communicated the subject matter clearly (i.e., used effective oral communication skills and spoke clearly: volume, tone, enunciation, and rate).	5 4 3 2 1 ○
12. Seemed confident with the subject.	5 4 3 2 1 ○
13. Was enthusiastic (i.e., dynamic & energetic, stimulated interest) about teaching	5 4 3 2 1 ○
14. Challenged me intellectually.	5 4 3 2 1 ○
15. Showed concern for the quality of his/her teaching.	5 4 3 2 1 ○
16. Made provisions for out-of-class consultation and assistance.	5 4 3 2 1 ○
17. Recognized when students failed to understand material.	5 4 3 2 1 ○
18. Encouraged questions and comments on the ideas presented.	5 4 3 2 1 ○
19. Responded to questions effectively in class.	5 4 3 2 1 ○
20. Maintained the attention of the class.	5 4 3 2 1 ○
21. Showed respect to the student as a future professional colleague.	5 4 3 2 1 ○
22. Was conscientious about beginning and ending class on time.	5 4 3 2 1 ○
23. Compared with all other instructors I have had at UAMS COP, I would rate this instructor as 5 = EXCELLENT to 1 = POOR.	5 4 3 2 1 ○
24. I would select other courses taught by this instructor if they were available.	5 4 3 2 1 ○

5 = strongly agree; 4 = agree; 3 = both agree & disagree; 2 = disagree; 1 = strongly disagree; ○ Not applicable or No opinion

Exam:	
25. The exam was consistent with the lecture objectives.	5 4 3 2 1 ○
26. Expectations for my performance were made clear to me before the exam.	5 4 3 2 1 ○
27. My current grade in this course is 5 = A; 4 = B; 3 = C; and 2 = F	5 4 3 2
28. The intent of the examination questions was clear.	5 4 3 2 1 ○

(OVER)

APPENDX B (continued)

Written Comments
Module: <ul style="list-style-type: none">• What aspect did you like least/most about this Module?• Other comments regarding the Module.
Instructor: <ul style="list-style-type: none">• What aspects of this instructor's teaching were MOST effective?• How could this instructor IMPROVE his/her teaching effectiveness?• Other comments regarding the teaching effectiveness of the instructor.
Comments regarding the Exam:
Other comments, in general: