



Evaluation of a Peer- and Self-Grading Process for Clinical Writing Assignments



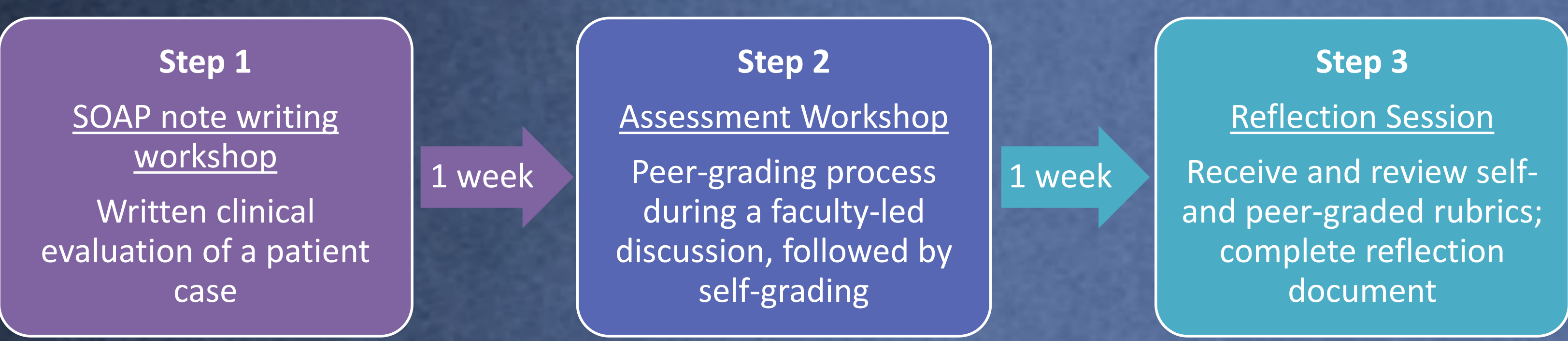
Tara Storjohann, PharmD, BCGP, FASCP; Erin Raney, PharmD, FCCP, BCPS, BC-ADM;
Elizabeth Pogge, PharmD, MPH, BCPS-AQ Cardiology, FASCP; Alyssa M. Peckham, PharmD, BCPP; Jeffrey F. Barletta, PharmD, FCCM
Department of Pharmacy Practice, College of Pharmacy-Glendale, Midwestern University, Glendale, AZ

Introduction

- ACPE 2016 standards state that colleges should use a variety of performance-based assessment methods. Additionally, Domain 4 of CAPE 2013 outcomes suggests that colleges provide a structured opportunity to develop the skills of peer- and self-assessment.
- To address these recommendations, Midwestern University College of Pharmacy-Glendale (CPG) incorporates a process for SOAP note writing workshops across four didactic quarters into a required skills lab course with approximate enrollment of 140 students.

Peer-/Self-Grading Process

- After the writing workshops, students evaluate and score both their own SOAP note (self-grading) in addition to an anonymous peer’s note (peer-grading) using a faculty-developed rubric during a faculty-led review of the case
- Students review both graded rubrics and reflect on this experience after the assessment workshop.



Objectives

- Evaluate the accuracy of the grading process that involves both peer- and self-assessment.
- Gather student perceptions to determine their satisfaction with the process.

Study Design/Methods

- Four SOAP note writing sessions from the Class of 2018 were used for evaluation. Topics included cardiovascular, psychiatric, and infectious diseases.
- The average self-, peer-, and final-grades within each session were compared using ANOVA.
- After the fourth session, students completed an anonymous 10-question, Likert-scale survey regarding their perceptions of the process and 3 open-response questions.
- Survey results were analyzed with descriptive statistics.

Table 1: Comparison of self-, peer-, and final-assigned scores following each session				
Quarter	Grades	N	Scores	p-value
			Mean (%)	
Fall 2016	Final	143	21.5 (86)	0.06
	Peer	143	21.5 (86)	
	Self	142	22.1 (88)	
Winter 2016	Final	141	43.1 (86)	0.22
	Peer	141	42.8 (86)	
	Self	141	43.6 (87)	
Spring 2017	Final	142	12.6 (74)	0.43
	Peer	143	12.5 (74)	
	Self	142	12.9 (76)	
Summer 2017	Final	140	21.4 (86)	0.07
	Peer	136	21.7 (87)	
	Self	135	22.2 (89)	

Results

- No statistically significant difference was found between average self-, peer-, and final-grades for all four SOAP note sessions (p > 0.05) (**Table 1**)
- Survey response rate was approximately 65% (91/140) and responses were grouped into three themes (**Table 2**)
- The majority of students either strongly agreed or agreed that sessions were well organized and effective (≥84%), assessment workshops enhanced learning (≥68%), and the scoring method was fair (≥72%) (**Table 2**)
- The lowest score (mean 2.5 on a 4-point scale) reflected satisfaction with peer-provided feedback
- Respondents reported that the faculty-led review and discussion enhanced clinical knowledge, and felt this was the most advantageous aspect of the process (**Table 3**)
- Respondents reported that peers asked too many questions and identified this as the least advantageous aspect of the process (**Table 3**)

Table 2: Student opinions about the SOAP note sessions						
Question	N	SA (%)	A (%)	D (%)	SD (%)	
Sessions were well organized and effective						
The SOAP note template helped me structure my written assignment.	90	54	34	7	4	
The instructions for participating in the assessment workshops were clear.	91	49	43	4	3	
The grading forms used in the assessment workshops were easy to follow.	91	36	52	9	3	
Faculty guidance during the assessment workshops allowed me to effectively grade both my own and my peer’s work.	91	46	38	9	7	
Assessment workshops enhanced learning						
Evaluating my own work was helpful to enhance my learning during the assessment workshops	91	51	35	8	7	
Evaluating a peer’s work was helpful to enhance my learning during the assessment workshops.	91	32	36	21	11	
Peer provided comments were constructive and useful in improving my skills for future assignments.	89	20	31	29	19	
The scoring method was fair						
The process of utilizing both the self- and peer-assigned grades to determine the initial grade for my SOAP note (prior to the reflection session) is fair. Example: If self and peer grades are within 5% of each other the student receives the higher grade. If difference is >5% the lower grade is assigned.	91	38	34	12	15	
The reflection sessions, which enable me to submit for faculty review, are necessary to receive a fair score these assignments.	90	61	29	4	6	
Faculty members awarded points fairly on the faculty review forms following the reflection session.	43 ^a	53	37	5	5	
^a Students were asked to answer this question only if they submitted a faculty review form during one of the four reflection sessions Abbreviations: SA = strongly agree; A = agree; D = disagree; SD = strongly disagree						

Conclusions

- Our confidence in the grading accuracy of this process is enhanced since our findings indicated no difference between the three grades assigned to each student.
- The students perceived that the process was beneficial to their learning, supporting the continued use of this assessment format in our curriculum.
- This novel peer assessment method has the potential to do the following:
 - Help programs meet the ACPE 2016 Standards and CAPE 2013 Educational Outcomes regarding personal and professional development
 - Hold the students accountable for assessing their peers’ work, assessing their own work, and providing quality feedback
 - Refine the students’ self-awareness, leadership, and professionalism skills, which are often times challenging to address
 - Provides an opportunity for students to receive feedback from multiple peer and faculty viewpoints by employing a consistent process over a longitudinal period
 - Requires minimal faculty to facilitate while being able to impact a large number of students which makes this type of activity applicable to all class sizes

Table 3: Student comments about the SOAP note sessions	
What did you like most about the self/peer review process?	# (%)
Faculty review of case and rubric was helpful to enhance knowledge	23 (35)
Timely feedback on how I performed on the assignment	8 (12)
Ability to see how my peers approached the case	7 (11)
Ability to grade my own paper	5 (8)
Sessions were well organized	3 (5)
I liked nothing about this process	3 (5)
Providing and receiving constructive feedback	2 (3)
Ability to help improve my writing skills	2 (3)
What did you like least about the self/peer review process?	# (%)
It took too much time/my classmates ask too many questions	34 (47)
There was inconsistency in points awarded amongst peer graders	15 (21)
Inconsistent rubric expectations	10 (14)
It allowed opportunities for cheating	2 (3)
I liked everything about this process	2 (3)
How do you feel the self/peer review process, including the reflection session, can be improved?	# (%)
Shorten the session time/save questions until the end	18 (30)
Provide clearer rubric expectations	13 (21)
Track common questions throughout the session so they do not need to be repeated	4 (7)
I don’t think there is anything that could improve this process	4 (7)
Penalize students who do not grade fairly	3 (5)
Grade peer paper first	3 (5)
Do not have it	3 (5)
Change cases each year	1 (2)

