

Advancing Peer Evaluation in Pharmacy Education: Current Practices and Future Opportunities

Kofi A. Owusu^{1*}, Linda M. Boateng¹, Patrick N. Asare¹

¹Department of Pharmacy Practice and Health Advocacy, School of Pharmacy, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana.

*E-mail ✉ kofi.owusu@gmail.com

Abstract

This study aimed to investigate and synthesize the policies and procedures associated with peer evaluation of teaching and instructional coaching (PET/IC) across pharmacy departments, schools, and colleges, while also identifying potential areas for enhancement grounded in best practice recommendations. A survey was distributed to all pharmacy programs accredited by the Accreditation Council for Pharmacy Education (ACPE) to collect data on institutional approaches for supporting and evaluating PET/IC programs. Descriptive statistics summarized the general characteristics of these programs, and inferential analyses compared responses based on institutional type (public vs. private) and age (0–10 years vs. older than 10 years). Responses were received from 91 institutions, yielding a 64.5% response rate. Among these, 78.4% reported having an established PET/IC program. Most programs incorporated both formative and summative evaluation methods (57.4%). The primary goals of PET/IC programs were faculty development (35.8%) and enhancing teaching quality (35.8%). Nearly half of the programs (46.3%) were mandatory for all faculty. Two-thirds of institutions (66.7%) utilized a single standardized evaluation tool. Only a small proportion (11.9%) had assessed or were in the process of assessing the effectiveness of their PET/IC program. Private institutions were more likely than public ones to offer incentives for observers (17.1% vs. 0%). PET/IC programs play a crucial role in providing structured feedback to educators on their teaching practices. While the majority of pharmacy institutions have such programs in place, implementation strategies vary widely. There is considerable potential for institutions to evaluate program effectiveness and adopt best practices to optimize teaching assessment.

Keywords: Peer evaluation, Peer assessment, Peer observation, Instructional coaching

Introduction

High-quality teaching is essential for preparing future pharmacists, highlighting the need for systematic evaluation of instructional effectiveness in all Doctor of Pharmacy (PharmD) programs [1–3]. As pharmacists' roles continue to expand within health care and team-based, interdisciplinary models of practice become more prevalent, pharmacy education must evolve accordingly.

Achieving this requires skilled and well-prepared educators. However, evidence suggests that while health professions faculty are content experts, they often lack formal training in pedagogical methods [1, 2].

Traditionally, student course evaluations have been used to gauge teaching effectiveness. Nevertheless, there is growing recognition that relying solely on student evaluations is insufficient [4–6]. These evaluations may reflect an instructor's charisma or presentation style rather than their ability to foster knowledge acquisition and critical thinking through evidence-based teaching strategies [7–9]. Additionally, student evaluations can be influenced by external factors outside the instructor's control, such as course logistics, learner motivation, or implicit bias related to race or gender [7, 10].

Access this article online

<https://smerpub.com/>

Received: 01 May 2024; Accepted: 19 August 2024

Copyright CC BY-NC-SA 4.0

How to cite this article: Owusu KA, Boateng LM, Asare PN. Advancing Peer Evaluation in Pharmacy Education: Current Practices and Future Opportunities. Ann Pharm Educ Saf Public Health Advocacy. 2024;4(2):26-33. <https://doi.org/10.51847/tKDwqRmOlR>

Peer evaluation of teaching offers an alternative approach, providing structured feedback to educators to enhance teaching quality and inform personnel decisions. Peer evaluation generally occurs in two forms: formative and summative [9]. Formative evaluation—often termed instructional coaching, peer feedback, or peer observation—is intended to offer constructive feedback for personal development. In contrast, summative evaluation is designed to support institutional decision-making, such as promotion, reappointment, or merit-based recognition, and is commonly referred to as peer review.

Several pharmacy institutions have published their experiences with implementing and assessing peer

evaluation of teaching programs [11–18]. Drawing from these reports and broader higher education literature, suggested practices for peer evaluation processes can be proposed (**Table 1**) [11–19]. However, neither the Accreditation Council for Pharmacy Education (ACPE) nor the American Association of Colleges of Pharmacy (AACP) provide standardized guidelines on recommended components or operational procedures for peer evaluation, resulting in variability across institutions in terms of program presence, objectives, and execution. This study seeks to examine and summarize current policies and practices for peer evaluation of teaching within pharmacy schools and identify areas for program enhancement based on established best practices.

Table 1. Suggested considerations for a peer evaluation of teaching/instructional coaching process

● Define a clear vision and set the purpose of the peer evaluation process.
● Establish a Teaching and Learning Office staffed with experts in education.
● Designate a program leader and a coordinator to oversee the process.
● Identify participants and assign peer evaluators.
● Develop a process adaptable for both in-person and online teaching environments.
● Select a validated instrument for conducting peer evaluations.
● Train peer evaluators to reduce potential biases.
● Provide constructive feedback and communicate evaluation results to the faculty member being assessed.
● Consider evaluating materials beyond classroom instruction, such as handouts and assessments.
● Include pre-class meetings, classroom observations, and post-class discussions as part of the process.
● Integrate peer and student evaluations along with self-reflection to minimize bias.
● Involve staff and senior faculty from diverse colleges and departments, bringing a variety of expertise.
● Promote principles of accountability, mutual respect, trust, confidentiality, inclusivity, and engagement in the scholarship of teaching and learning.
● Implement a process for accountability that includes recognition and rewards.
● Acknowledge sociocultural differences and work to mitigate power imbalances and structural barriers.

Materials and Methods

Drawing on specialized knowledge and a review of literature concerning optimal approaches to colleague-based teaching assessment and mentoring in instruction, an online questionnaire was created using Qualtrics software. Throughout the investigation, the expressions peer evaluation of teaching (PET) and instructional coaching (IC) were treated as equivalent. The concept of

peer evaluation of teaching/instructional coaching (PET/IC) was described as the appraisal of instructional effectiveness conducted by peers, typically from the same or related fields, aimed at evaluating and enhancing educational quality [20].

In developing the questionnaire, the research goals were first outlined, followed by the formulation of questions aligned with each goal. These goals encompassed: assessing the extent and scope of existing PET/IC initiatives in various institutions; identifying typical

practices that facilitate these assessments or coaching efforts; and examining if programs had assessed their effectiveness and influence on instructional outcomes and student achievement. The research group drafted questions, refined them for better understanding, and collaborated to settle on the final version. Once consensus was reached on the instrument, it was pilot-tested by five academics of varying seniority from two separate institutions, who offered suggestions for improvement. The completed questionnaire incorporated branching logic and included up to 41 items, along with two questions on participant demographics. Key concepts—such as PET/IC, formative assessments, and summative assessments—were explicitly defined to promote uniform interpretation among respondents.

The Institutional Review Board at Northeastern University classified this study as exempt from full review. In October 2020, invitations to participate were sent via email to assessment coordinators at 141 pharmacy schools. Recipients were instructed to redirect the invitation if a more suitable person existed and to submit a single response per institution, after discussion with relevant colleagues if necessary. A downloadable version of the questionnaire was supplied to aid collaboration. Owing to interruptions caused by the COVID-19 pandemic, the collection period extended until March 2021, involving multiple automated reminders through Qualtrics, direct emails, and telephone contacts to achieve an adequate participation level. Data were associated with individual institutions but examined in aggregate. Responses to all questions were reported as counts and proportions. Comparisons based on institution type (public versus private funding) and establishment date (newer than 10 years versus 10 or more years) were conducted via chi-square analyses, applying Fisher's exact test for cells with fewer than five observations. A *p*-value below 0.05 indicated statistical significance.

Results and Discussion

Completed questionnaires were received from 91 schools, yielding a participation rate of 64.5%. Slightly over half were from public institutions (*n*=49, 54%), with the remainder private (*n*=42, 46%). Founding years for these programs spanned from 1823 to 2017. A majority reported an active PET/IC initiative (*n*=69, 78.4%), while a small number were in the process of establishing one (*n*=4, 4.5%), and others had none (*n*=15, 17%). Among schools with PET/IC initiatives (denoted as “*n*”), the distribution mirrored that of the full set of 141 U.S. pharmacy programs (denoted as “*N*”) in terms of funding source (public: *n*=32, 46% versus *N*=68, 48%; private: *n*=37, 54% versus *N*=73, 52%; *p*=0.80) and program age (under 10 years: *n*=7, 10% versus *N*=18, 13%; 10 or more years: *n*=62, 90% versus *N*=123, 87%; *p*=0.58).

As detailed in **Table 2**, the majority of programs with PET/IC employed both formative and summative approaches (*n*=39, 57.4%). Fewer relied solely on formative methods (*n*=19, 27.9%) or summative alone (*n*=10, 15.0%). The primary motivations cited for these initiatives were professional growth of faculty (*n*=24, 35.8%) and enhancement of instructional practices (*n*=24, 35.8%). Other reasons, such as supporting tenure or promotion decisions (*n*=14, 20.9%) or advancing student outcomes (*n*=5, 7.5%), were less frequently mentioned as main drivers. Compliance with accreditation standards or supplying information for performance-based compensation were rarely identified as central objectives. Most schools lacked supplementary university-wide resources or centers dedicated to PET/IC support (*n*=52, 77.6%). Additionally, the bulk reported no modifications to their protocols or guidelines in response to the COVID-19 situation (*n*=41, 60.3%).

Table 2. Characteristics of PET/IC programs at US schools and colleges of pharmacy

Survey items		Private (<i>n</i> =37) ^a No. (%)	Public (<i>n</i> =32) ^a No. (%)	<i>p</i> value	>10 years (<i>n</i> =61) ^a No. (%)	0-10 years (<i>n</i> =8) ^a No. (%)	<i>p</i> value
Program type	Formative	12 (33.3)	7 (21.9)		18 (30.0)	1 (12.5)	.44
	Summative	6 (16.7)	4 (12.5)		8 (13.3)	2 (25.0)	

	Combination	18 (50)	21 (65.5)	.41	34 (56.7)	5 (62.5)	
Affiliate support center	None	29 (80.6)	23 (74.2)		46 (78.0)	6 (75.0)	1.00
	Yes	7 (19.4)	8 (25.8)	.53	13 (22.0)	2 (25.0)	
Mandatory participation	Other	11 (30.6)	10 (32.30)	.88	18 (30.5)	3 (37.5)	.70
	All/some	25 (69.4)	21 (67.7)		41 (69.5)	5 (62.5)	
Standardized instrument	None	7 (19.40)	5 (16.7)	.77	10 (17.2)	2 (25.0)	.63
	11	29 (80.6)	25 (83.3)		48 (82.8)	6 (75.0)	
Adapted instrument	No	15 (51.70)	16 (64.0)	.36	30 (62.5)	1 (16.7)	.07
	Yes	14 (48.3)	9 (36.0)		18 (37.5)	5 (83.3)	
Completion of in-person	No	31 (88.6)	25 (80.6)	.50	51 (87.9)	5 (62.5)	.10
training for peer observers	Yes	4 (11.4)	6 (19.4)		7 (12.1)	3 (37.5)	
Incentivized to observe	No	29 (82.9)	30 (100)	.03 ^b	52 (91.2)	7 (87.5)	.56
	Yes	6 (17.1)	0		5 (8.8)	1 (12.5)	
Evaluated PET/IC	No	28 (77.8)	23 (74.2)	.73	46 (78.0)	5 (62.5)	.39
	Yes/in process	8 (22.2)	8 (25.8)		13 (22.0)	3 (37.5)	

Abbreviations: PET/IC⁵peer evaluation of teaching/instructional coaching program.

^a Some items were missing data, so counts for survey items may sum to less than the full sample.

^b $p < .05$.

Among the institutions operating PET/IC programs, close to half mandated involvement for every faculty member ($n=31$, 46.3%). Of these 31 mandatory programs, more than one-third ($n=12$, 38.7%) indicated that non-participation carried consequences. Approximately one-quarter of the programs ($n=16$, 24.2%) employed a standardized approach to conducting the evaluations. In the majority of cases, faculty members selected the specific class session to be observed ($n=53$, 79.1%).

When respondents identified key components of their PET/IC procedures, the most frequent elements were direct classroom observations ($n=67$, 97.1% of 69 institutions) and follow-up discussions after the observation ($n=39$, 56.5%). Pre-observation meetings were incorporated by 30 institutions (43.5%), as was instructor self-reflection ($n=30$, 43.5%), whereas a

separate post-assessment meeting was included by only 18 (26.1%). Common additional features of the review process included examination of teaching materials (e.g., slides, handouts, assignments, or homework) ($n=60$, 87%) and consideration of student reactions observed during the evaluation ($n=29$, 42%). Less common were reviews of teaching portfolios ($n=9$, 13%) or student performance data from assessments ($n=13$, 18.8%).

With respect to evaluation tools, the majority of PET/IC programs utilized a single standardized instrument ($n=44$, 66.7%), while some used several standardized instruments ($n=10$, 15.2%) and others had none ($n=12$, 18.2%). Among programs with at least one instrument, most had created it internally ($n=29$, 53.7%), and only nine (16.7%) reported having validated their tool.

Incentives for faculty to perform peer observations were

rare, with nine out of ten institutions offering none ($n=59$, 90.8%).

Regarding preparation for peer observers, the most common response was that no structured training was provided ($n=47$, 68.1%). When indicating how feedback was communicated, respondents most frequently reported sharing the completed evaluation form ($n=51$, 73.9%), holding oral discussions of the findings ($n=46$, 66.7%), and supplying a summary letter ($n=25$, 36.2%). Oversight of PET/IC program operations (e.g., policy communication) most commonly fell to department chairs ($n=29$, 43.3%). Open-ended responses also highlighted frequent involvement of faculty committees, administrative faculty, or staff ($n=23$, 34.3%). Statistical analysis revealed that private institutions were significantly more likely to provide incentives for peer observers ($n=6$) compared to public institutions ($n=0$, $p=.03$).

Only about one in ten programs had formally assessed their effectiveness or impact ($n=8$, 11.9%), with a similar number currently undertaking such an evaluation ($n=8$, 11.9%). Thus, the vast majority ($n=51$, 76.1%) had not conducted any evaluation of their PET/IC program's success.

To equip faculty to address the evolving needs of students and provide a high-quality educational experience, pharmacy schools and colleges must continually assess their teaching effectiveness. Over time, peer evaluation of teaching (PET) has emerged as a widely adopted method for faculty to evaluate and enhance their instructional quality, particularly in countries where PET is most established, such as the United States, Australia, and the United Kingdom [20]. As PET has become part of a broader framework for evaluating teaching effectiveness alongside other measures [21], the approach to teaching has shifted from being an individual effort to a collaborative, community-driven process aimed at improvement [22]. Although ACPE Standard 10 mandates that curricula be delivered using teaching strategies that address student learning needs and support achievement of course objectives, it does not require a formal quality assurance process for providing feedback on teaching and learning [3].

Our study indicated that most institutions have implemented a PET or instructional coaching (IC) program, yet there is substantial variability in how these programs are structured across the Academy. While differences may reflect varying pedagogical models and faculty incentive structures, the absence of a standardized

framework for conducting and fostering peer review could lead to inconsistent awareness of whether evidence-based teaching practices are being employed. This highlights an opportunity for the Academy to strengthen PET processes.

Historically, PET in higher education has been applied through formative or summative methods. In our findings, most institutions reported using a combination of both approaches within their PET/IC programs. Both formative and summative evaluations have been shown to support faculty in reflecting on their teaching, increasing confidence, reducing professional isolation, enhancing student learning experiences, improving instructional effectiveness, fostering community and collegiality, and encouraging critical reflection on the social dimensions of teaching [23–30]. Consequently, PET should be regarded as a comprehensive process that allows pedagogy to be examined, critiqued, adapted, and preserved.

In pharmacy education, the literature on establishing best practices for PET is limited, though other academic disciplines have provided guidelines. Effective PET programs require a clear and explicit framework to ensure meaningful outcomes. Evaluations should use appropriate evidence and procedures to maintain fairness, consistency, and reliability. Moreover, assessment methods should align with the institution's mission, values, and educational practices [31]. The use of validated rubrics and assessment tools is recommended to accurately measure teaching impact and allow faculty to monitor their progress for ongoing improvement. This represents a key area for growth in pharmacy education, as only 16.7% of surveyed institutions reported employing a validated instrument in their PET/IC processes. Reynolds and colleagues suggested that rubrics be designed to evaluate four main domains: disciplinary expertise, design and development skills, instructional practices and performance, and the teaching environment [32]. Each domain is further divided into subcategories with descriptive statements to provide detailed guidance for assessment.

Many higher education institutions maintain a central teaching and learning center to support faculty across disciplines; however, pharmacy colleges are encouraged to establish their own centers that align teaching with the discipline. This approach helps emphasize the importance of teaching in the student experience and engages faculty in the scholarship of their profession [23, 33].

Based on a review of the literature, we have developed suggested best practices for establishing and sustaining a PET program, complementing the steps outlined by Trujillo and colleagues (**Table 1**) [34]. Reflection and feedback should be integral to the review process, ideally incorporating a meeting to facilitate discussion rather than relying solely on written feedback. Feedback should be delivered in a nonthreatening manner, with sufficient time allotted to review and discuss findings [35]. Creating a psychologically safe environment encourages faculty to explore innovative teaching strategies without feeling anxious, embarrassed, or experiencing negative self-talk [35]. Examples of fostering such safety include programs that enhance transparency by recording teaching sessions on video along with pre- and post-observation discussions, and allowing faculty to self-assess their teaching before the post-observation meeting to identify challenges and solutions, promoting a two-way, conversational feedback process [29, 36]. Some programs provide feedback exclusively to the evaluated faculty member, who may then choose to share it with others, such as their department chair [19].

Our study indicated that many institutions have opportunities to improve PET by strengthening the feedback component. This could involve incorporating a pre-observation meeting, establishing consistent timelines and expectations for post-observation discussions, and reviewing student assessments as part of the process to ensure teaching and learning quality.

Formal training for faculty conducting peer reviews is limited, with most receiving informal mentorship from committee members or staff [36]. In some cases, experienced faculty are selected as observers [37, 38]. Regardless of teaching experience or faculty role, peer reviewers should receive structured guidance and training to understand pedagogical approaches. Each institution should develop a formal training program based on best practices and cultivate a culture where performance measures are created through faculty consensus, ongoing mentorship, and evaluation processes tied to meaningful outcomes [36]. In our study, only 31.9% of institutions reported providing formal training for peer observers. Training should equip reviewers to assess peers against professional standards, collect evidence, and deliver constructive feedback, ideally developed collaboratively by senior faculty and educational experts. These practices help build trust, mutual respect, awareness of sociocultural differences, and minimize bias.

The absence of a deliberate and comprehensive approach to evaluation standards can often introduce biases from evaluators, which may disadvantage historically underrepresented groups facing structural and institutional barriers. To mitigate these biases, the reliability of PET can be enhanced through the use of standardized evaluation tools, training for evaluators, reflective discussions, and intentional recognition of sociocultural norms, values, and conventions. Literature highlights the significance of sociocultural contexts in the peer review process, noting that these perspectives influence departmental and institutional norms, rules, and attitudes, as well as faculty interactions with colleagues and students. Establishing a climate of trust, support, and shared goals facilitates open communication, which is crucial for successful peer review [37]. As institutions increasingly confront and separate themselves from elements of their discriminatory histories, the review process should intentionally acknowledge, value, and respect faculty from diverse cultural backgrounds. Including peer reviewers from historically underrepresented groups can help counteract potential discriminatory patterns in evaluations.

Our study found that very few institutions have formally assessed the effectiveness and impact of their PET/IC programs, representing a significant opportunity to understand how these programs influence teaching and learning across the Academy. In one institution that conducted an evaluation, a pre-implementation survey assessed faculty needs and attitudes toward peer evaluation, followed by a post-implementation survey two years later, which included questions on adherence to observation policies, feedback received, and teaching impact [13]. Overall, the direct link between PET/IC programs and student learning outcomes remains poorly understood. We recommend that PET be used alongside other measures of teaching effectiveness, such as student evaluations, self-assessments, and teaching artifacts, as teaching is inherently multidimensional and cannot be adequately captured by one or two metrics.

Several limitations of our study should be noted. First, of 141 institutions contacted, 91 completed the survey, yielding a 64.5% response rate. Despite being below 80%, respondents were proportionally representative regarding institutional control ($p = 0.8$) and the age of pharmacy schools ($p = 0.58$). Second, the survey captured responses from a single individual per institution, which may not reflect all aspects of the PET/IC program, particularly those unknown to the

respondent. To reduce this limitation, respondents were encouraged to consult colleagues or forward the survey to someone more knowledgeable about the institution's program. Third, the survey did not clearly differentiate between PET and IC, suggesting that future research should examine distinctions between summative and formative approaches to enhancing teaching effectiveness in pharmacy education.

Conclusion

PET/IC programs are critical for evaluating teaching effectiveness across the pharmacy Academy. Although most schools have implemented such programs, there is considerable variability, and many gaps remain in applying PET/IC best practices. Institutions could benefit from assessing the effectiveness of their programs to implement strategies that have a meaningful impact on teaching and learning. Further research is needed to advance PET/IC program development and the evaluation instruments used, ensuring that teaching practices adequately prepare pharmacy graduates.

Acknowledgments: None

Conflict of Interest: None

Financial Support: None

Ethics Statement: None

References

1. MacDougall J, Drummond MJ. The development of medical teachers: an enquiry into the learning histories of 10 experienced medical teachers. *Med Edu*. 2005;39(12):1213-1220.
2. Hartford W, Nimmon L, Stenfors T. Frontline learning of medical teaching: "you pick up as you go through work and practice". *BMC Med Edu*. 2017;17(1):1-10.
3. Accreditation Council for Pharmacy Education. Accreditation standards and key elements for the professional program in pharmacy leading to the doctor of pharmacy degree. Available from <https://www.acpe-accredit.org/pdf/Standards2016FINAL.pdf>. Accessed July 29, 2021.
4. Thampy H, Kersey N. Peer observation of clinical teaching: A guide. *MedEdPublish*. 2015;5:9.
5. Irby DM, Gillmore GM, Ramsey PG. Factors affecting ratings of clinical teachers by medical students and residents. *J Med Educ*. 1987;62(1):1-7.
6. Kidd RS, Latif DA. Student evaluations: Are they valid measures of course effectiveness? *Am J Pharm Educ*. 2004;68(3):61.
7. Hyland KM, Dhaliwal G, Goldberg AN, Chen L, Land K, Wamsley M. Peer review of teaching: Insights from a 10-year experience. *Med Sci Educ*. 2018;28:675-681.
8. Speer AJ, Elnicki DM. Assessing the quality of teaching. *Am J Med*. 1999;106:381-384.
9. Irby DM. Teaching and learning in ambulatory care settings: a thematic review of the literature. *Acad Med*. 1995;70:898-931.
10. Esarey J, Valdes N. Unbiased, reliable, and valid student evaluations can still be unfair. *Assess Eval High Educ*. 2020;45(8):1106-1120.
11. Davis TS. Peer observation: A faculty initiative. *Curr Pharm Teach Learn*. 2011;3:106-115.
12. Trujillo JM, DiVall MV, Barr J, et al. Development of a peer teaching-assessment program and a peer observation and evaluation tool. *Am J Pharm Educ*. 2008;72(6):147.
13. DiVall M, Barr J, Gonyeau M, et al. Follow-up assessment of a faculty peer observation and evaluation program. *Am J Pharm Educ*. 2012;76(4):61.
14. Hansen LB, McCollum M, Paulsen SM. Evaluation of an evidence-based peer teaching assessment program. *Am J Pharm Educ*. 2007;71(3):45.
15. Schultz KK, Latif D. The planning and implementation of a faculty peer review teaching project. *Am J Pharm Educ*. 2006;70:32.
16. Wellein MG, Ragucci KR, Lapointe M. A peer review process for classroom teaching. *Am J Pharm Educ*. 2009;73:79.
17. Richard CL, Lillie E, Mathias K, McFarlane T. Impact and attitudes about peer review of teaching in a Canadian pharmacy school. *Am J Pharm Educ*. 2019;83(6):6828.
18. Moon JY, Schullo-Feulner AM, Kolar C, et al. Supporting formative peer review of clinical

- teaching through a focus on process. *Curr Pharm Teach Learn*. 2018;10(6):771-778.
19. Olsen AA, Morbitzer KA, Zambrano S, Zeeman JM, Persky AM, Bush AA, McLaughlin JE. Development and implementation of a formative instructional coaching program using the Teaching Practices Inventory within a health professions program. *BMC Med Ed*. 2022;22:554. doi:10.1186/s12909-022-03616-z. Accessed October 21, 2022.
 20. Northern Michigan University. Peer evaluation of teaching. <https://nmu.edu/ctl/peer-evaluation-teaching#:~:text=Peer%20Evaluation%20of%20Teaching%20consists,the%20quality%20of%20their%20teaching>. Accessed August 27, 2021.
 21. Lomas L, Nicholls G. Enhancing teaching quality through peer review of teaching. *High Edu*. 2005;11(2):137-149.
 22. Davis TS. Peer observation: A faculty initiative. *Curr Pharm Teach Learn*. 2011;3(2):106-115.
 23. Bell A, Thomson K. Supporting peer observation of teaching: Collegiality, conversations, and autonomy. *Innovations in Education and Teaching International*. 2016;55(3):276-284.
 24. Chism N. *Peer Review of Teaching: A Sourcebook*. 2nd ed. Boston, MA: Anker Publishing Group; 2007.
 25. Hammersley-Fletcher L, Orsmond P. Reflecting on reflective practices within peer observation. *Studies in Higher Education*. 2005;30(2):213-224.
 26. Bell M, Cooper P. Peer observation of teaching in university departments: A framework for implementation. *International Journal for Academic Development*. 2013;18(1):60-73.
 27. Hendry GD, Bell A, Thomson K. Learning by observing a peer's teaching situation. *International Journal for Academic Development*. 2013;19(4):318-329.
 28. Bell A, Mladenovic R. Situated learning, reflective practice and conceptual expansion: Effective peer observation for tutor development. *Teaching in Higher Education*. 2015;20(1):24-36.
 29. Barnard A, Croft W, Irons R, Cuffe N, Bandara W, Rowntree P. Peer partnership to enhance scholarship of teaching: A case study. *Development*. 2011;30(4):435-448.
 30. Bell A, Thomson K. Supporting peer observation of teaching: Collegiality, conversations, and autonomy. *Innovations in Education and Teaching International*. 2018;55(3):276-284.
 31. Peel D. Peer observation as a transformatory tool? *Teaching in Higher Education*. 2005;10(4):489-504.
 32. Reynolds, Avin, Bao, et al. Teaching Evaluation Initiative (TEI). Center for Excellence in Teaching and Learning (CETL). <https://www.uwec.edu/files/1478/TEI-Report-Sept-10-2010.pdf>. Accessed July 30, 2021.
 33. Peyre SE, Frankl SE, Thorndike M, Breen EM. Observation of clinical teaching: Interest in a faculty development program for surgeons. *J Surg Educ*. 2011;68(5):372-376.
 34. Trujillo JM, DiVall MV, Barr J, et al. Development of a peer teaching-assessment program and a peer observation and evaluation tool. *Am J Pharm Educ*. 2008;72(6):147.
 35. Buchanan JA, Parry D. Engagement with peer observation of teaching by a dental school faculty in the United Kingdom. *Eur J Dent Educ*. 2018;23(1):42-53.
 36. Torbeck L, Dunnington G. Development of a peer review of operative teaching process and assessment tool. *Am J Surg*. 2021; 221(2):263-269.
 37. Mazer LM, Hu YY, Arriaga AF, et al. Evaluating surgical coaching: a mixed methods approach reveals more than surveys alone. *J Surg Educ*. 2018;75(6):1520-1525.
 38. Ambler T, Chavan M, Clarke J, Matthews N. Climates of communication: Collegiality, affect, spaces and attitudes in peer review. *Peer Review of Learning and Teaching in Higher Education*. 2014:67-84