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Resources to Aid Faculty in Creating Peer Assessment Activities

Peer assessment can be an effective method for giving students feedback on their work in both online and classroom environments. This document provides information to help faculty members create meaningful, effective peer assessment activities. It includes links to articles and resources in three areas:

1. Setting Students Up for Success when Implementing Peer Assessment
2. Studies on the Use of Peer Assessment in Healthcare Education
3. Using Rubrics

For additional help planning the use of peer assessment in your classroom or designing learning activities that incorporate peer assessment, contact the Education & Technology Innovation (ETI) Support Office at eti@usuhs.edu.

1. Setting Students Up for Success when Implementing Peer Assessment

Student perceptions of peer assessment can impact the effectiveness of peer assessment activities. One way to help students recognize the benefits of peer assessment is to explain to them the objectives of and best practices for using peer assessment. Students need to know how and why they are being assessed and why their peers are the appropriate people to participate in the assessment process.

The following resources provide tips for preparing students for peer assessment as well as recommendations for implementing peer assessment effectively.

Medical Students' Views on Peer Assessment of Professionalism

This study presents the results of the authors' research on factors that affect students' attitudes about peer assessment and discusses conditions that can help make students more receptive to such assessment, such as confidentiality and an understanding of how the results of the peer assessment are being used.

Arnold, L., Shue, K., Kritt, B., Ginsburg, S., & Stern, D. (2005). Medical students' views on peer assessment of professionalism. *Journal of General Internal Medicine*, 20(9), 819–824. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1490208/

Peer Assessment in Online Courses

Brown University's Harriet W. Sheridan Center for Teaching and Learning provides a list of tips to consider before using peer assessment.

- Prepare students for peer assessment before the assignment by:
  - Providing examples of thoughtful, respectful, and constructive feedback (and address any related concerns if the peer assessment will be anonymous)
  - Ensuring that students know how they will be evaluated and evaluating others by providing clear criteria (consider a rubric - see Using Rubrics section of this document)
  - Providing your rationale for using peer assessment and explaining its benefits.
- Ensure the assignments are of a manageable size for the time allowed for peer assessment.
- Ensure that the assessment criteria measure the intended learning outcomes.
- Consider grading peer assessments to ensure that students apply equal effort to the assignment and the critique.

Brown University's Harriet W. Sheridan Center for Teaching and Learning. (n.d.) Peer Assessment in Online Courses. Retrieved March 8, 2022, from https://www.brown.edu/sheridan/teaching-learning-resources/teaching-resources/course-design/enhancing-student-learning-technology/peer-assessment-online-courses

Peer Assessment

Cornell's Center for Teaching Innovation provides answers to the following questions:

- What is peer assessment?
- Why employ peer assessment?
- How can you incorporate peer assessment?
- What else should you consider when incorporating peer assessment?

Cornell University's Center for Teaching Innovation. (n.d.) *Peer Assessment*. Retrieved March 8, 2022, from https://teaching.cornell.edu/teaching-resources/assessment-evaluation/peer-assessment

A Survey of Resident Opinions on Peer Evaluation in a Large Internal Medicine Residency Program

The findings of this study suggest that internal medicine residents provide unique assessment of their peers, including feedback that pertains to professional development. The findings also support the role of peers in assessing the competencies of professionalism and interpersonal and communication skills.

Dupras, D., & Edson, R. (2011). A survey of resident opinions on peer evaluation in a large internal medicine residency program. *Journal of Graduate Medical Education*, 3(2), 138–143. Retrieved from http://www.jgme.org/doi/abs/10.4300/JGME-D-10-00099.1

Twelve Tips for Implementing a Successful Peer Assessment

This article provides 12 tips related to planning, delivery and feedback for the successful implementation of peer assessment in a health-based setting. The article also contains practical guidance and anecdotal evidence related to peer assessment in general.

Finn, G.l., & Garner, J. (2011) Twelve tips for implementing a successful peer assessment. *Medical Teacher*, 33, 443–446. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/21355687

Assessment Skills of Dental Students as Peer Evaluators

This study provides a look at the level of assessment skills of dental students as evaluators in an introductory dental anatomy preclinical course. The results show that assessments are influenced by the type of evaluator. The authors suggest that to improve students' abilities in peer assessment in preclinical environments, a calibration method for student and faculty evaluators should be established along with close mentorship by faculty.

Kim, A., Chutinan, S., & Park, S. (2015) Assessment skills of dental students as peer evaluators. *Journal of Dental Education* 79, 653–657. Retrieved from https://pubmed.ncbi.nlm.nih.gov/26034029/ Note: Link goes to the abstract for the article. For USU faculty and staff, the full article is available via the LRC's PowER Search if you are logged in to the USU library website.

A Survey of Health Sciences Faculty Practices and Attitudes Regarding the Peer Feedback Component of Team-Based Learning

This study provides suggestions for how to make peer feedback effective as part of team-based learning. It highlights the importance of alignment of peer assessment to learning outcomes and the need for training students in how to provide effective feedback as a means for students to develop professional competencies and prepare for their careers that include peer review responsibilities.

Lerchenfeldt, S. & Eng, M. (2019). A survey of health sciences faculty practices and attitudes regarding the peer feedback component of team-based learning. *Medical Science Educator*, 29(4), 1211–1219. https://doi.org/10.1007/s40670-019-00816-z

2. Studies on the Use of Peer Assessment in Healthcare Education

Faculty who wish to incorporate peer assessment into their teaching should first identify activities and materials that are appropriate for peer assessment. Although peer assessment has most commonly been used for reviewing written work (e.g., scientific papers, case studies, article reviews), it has also been used to evaluate students in the healthcare professions in more innovative, hands-on ways.

Some examples covered in this document show how peer assessment has been used to provide feedback on professionalism, communication skills, and clinical activities. For an example of a more traditional use of peer assessment see "Peer Review in the Classroom" (Guilford, 2001). If conducted properly, peer assessment can be a reliable and beneficial method for enhancing learning.

The following resources provide results of studies conducted on the use of peer assessment in the education of healthcare professionals. (NOTE: Many of these are small scale studies.)

Reliability and Benefits of Medical Student Peers in Rating Complex Clinical Skills

In this study, peer reviewers scored each other on complex skills, such as an objective structured clinical exam (OSCE), with results similar to those given by faculty members. The authors conclude that this study indicates the reliability and benefits of using peer assessment.

Basehore, P., Pomerantz, S., & Gentile, M. (2014). Reliability and benefits of medical student peers in rating complex clinical skills. *Medical Teacher*, 36(5), 409–14. Abstract retrieved from https://pubmed.ncbi.nlm.nih.gov/24597711/ Note: Link goes to the abstract for the article. For USU faculty and staff, the full article is available via the LRC's PowER Search if you are logged in to the USU library website.

Peer Teacher Training (PTT) Program for Health Professional Students: Interprofessional and Flipped Learning

The purpose of this study was to demonstrate the design and implementation of an interprofessional Peer Teacher Training (PTT) program conducted using a flipped learning model over 6 modules that allowed students to develop and practice their teaching, assessment and feedback skills. Interprofessional education during healthcare training has shown to improve leadership, collaboration and communication in healthcare teams. This program included online, pre-class preparation, then in-class face-to face sessions with small group activities, peer collaboration, formative assessment and feedback. Outcomes showed increased confidence and competence in teaching skills and a positive attitude towards interprofessional learning. The most useful aspects of the program were specific models provided for teaching, feedback and communication, the small group activities to practice in a safe environment with reflection and feedback, the content and resources and the interprofessional aspect of the program.

Burgess, A., Roberts, C., van Diggele, C., & Mellis, C. (2017). Peer teacher training (PTT) program for health professional students: Interprofessional and flipped learning. *BMC Medical Education*, 17(1), 239–239. https://doi.org/10.1186/s12909-017-1037-6

Use of Peer Assessment as a Student Engagement Strategy in Nurse Education

Peer assessment was implemented in an undergraduate nursing program in Ireland to enhance student engagement. The study reports students' experiences of the process. The analysis identified three themes: impact on student engagement, challenges of peer assessment, and improving peer assessment. The findings show that most students enjoyed the process and that peer assessment facilitates and enhances student engagement. The article includes a detailed account of methods used to implement peer assessment and may be useful as a model.

Casey, D., Burke, E., Houghton, C., Mee, L., Smith, R., Van Der Putten, D., Bradley, H., & Folan, M. (2011). Use of peer assessment as a student engagement strategy in nurse education. Nursing and Health Sciences, 13, 514–520. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/21943252 Note: Link goes to the article's abstract. For USU faculty and staff, the full article is available via the LRC's e-resources system.

Relationship Between Peer Evaluation and Interprofessional Self-Evaluation in a Joint Healthcare Team-Based Learning Class Involving Three Universities

This study found that peer evaluation is related to inter-professional self-evaluation in terms of participating in group work. The study suggests that using peer assessment may enhance professional skills in communication.

Nakamura, Itoh, M., Miki, Y., Kido, T., Kamei, H., Suzuki, S., & Ohtsuki, M. (2020). Relationship between peer evaluation and interprofessional self-evaluation in a joint healthcare team-based learning class involving three universities. Fujita Medical Journal, 6(4), 102–109. https://doi.org/10.20407/fmj.2019-017

Reliability and Validity of Student Peer Assessment in Medical Education: A Systematic Review

This study provides an overview of instruments or questionnaires for peer assessments used in medical and allied health professional educational settings and explores their psychometric characteristics.

Speyer, R., Pilz, W., Van Der Kruis, J., & Brunings, J. (2011) Reliability and validity of student peer assessment in medical education: A systematic review. Medical Teacher, 33, e572–e585. Retrieved from http://www.tandfonline.com/doi/full/10.3109/0142159X.2011.610835

Formative Peer Assessment in Higher Healthcare Education Programmes: A Scoping Review

This is a compilation of peer-reviewed research about formative peer assessment in higher education in medicine, nursing, midwifery, dentistry, PT or OT, and radiology published between 2002 and 2019.

Stenberg, M., Mangrio, E., Bengtsson, M. et al. (2021). Formative peer assessment in higher healthcare education programmes: A scoping review. *BMJ Open*, 11:e045345. doi: https://bmjopen.bmj.com/content/11/2/e045345

Assessment of Medical Students' Clinical Performance Using High-Fidelity Simulation: Comparison of Peer and Instructor Assessment

This study analyzed the inter-rater reliability between peers and instructors and examined differences in scores between peers and instructors for 34 groups of medical students using simulation. A modified Queen's Simulation Assessment Tool was used which rated primary assessment, diagnostic actions, therapeutic actions and communication. The study results indicated that peer assessment can be a reliable assessment method to assess clinical competency using simulations.

Yu, J.H., Lee, M. J., Kim, S. S., Yang, M. J., Cho, H. J., Noh, C. K., Lee, G. H., Lee, S. K., Song, M. R., Lee, J. H., Kim, M., & Jung, Y. J. (2021). Assessment of medical students' clinical performance using high-fidelity simulation: Comparison of peer and instructor assessment. *BMC Medical Education*, 21(1), 1–506. https://doi.org/10.1186/s12909-021-02952-w

3. Using Rubrics

Providing students with a rubric gives them a framework for their reviews of others' work and helps keep the students' peer assessments focused and objective. The following resources provide information about creating and using rubrics.

Creating and Using Rubrics

Carnegie Mellon's *Eberly Center for Teaching Excellence & Educational Innovation* provides information about using rubrics along with examples of rubrics for paper assignments, projects, presentations, and class participation/contributions.

Carnegie Mellon University's Eberly Center for Teaching Excellence & Educational Innovation. (n.d.) *Creating and Using Rubrics*. Retrieved March 8, 2022 from https://www.cmu.edu/teaching/assessment/assesslearning/rubrics.html

Using Rubrics

Cornell's *Center for Teaching Innovation* provides answers to the following questions:

- Why use rubrics?
- How can you develop a rubric?
- How can you incorporate rubrics in a course?

On this website, there are also links to additional resources for using rubrics.

Cornell University's Center for Teaching Innovation. (n.d.) *Using Rubrics*. Retrieved March 8, 2022, from https://teaching.cornell.edu/teaching-resources/assessment-evaluation/using-rubrics

The Development of a Rubric for Peer Assessment of Individual Teamwork Skills in Undergraduate Midwifery Students

This study includes a developed rubric to assess teamwork skills in a healthcare environment.

Hastie, C., Fahy, K., & Parratt, J. (2014). The development of a rubric for peer assessment of individual teamwork skills in undergraduate midwifery students. Women & Birth, 27(3), 220–227. https://doi.org/10.1016/j.wombi.2014.06.003

Rubric Creation and Use

Indiana University Bloomington's *Center for Innovative Teaching and Learning* presents steps for creating a rubric and advice on using a rubric.

Indiana University Bloomington's Center for Innovative Teaching and Learning. (n.d.). *Rubric Creation and Use*. Retrieved March 8, 2022, from https://citl.indiana.edu/teaching-resources/assessing-student-learning/rubric-creation-use/