

Identifying Pathways for Excellence in Teaching

In his October 10, 2017 address, President Michael McRobbie charged the IU community with several tasks intended to assure IU's "pervasive excellence in teaching and learning," including the following:

I ask the UFC and other faculty governance organizations to work with campus academic leadership to consider developing new, well-defined, rigorous pathways for tenure and promotion based specifically on excellence in teaching. The pathways should be **evidence based**, use **multiple types of evidence of excellence**, consider **evidence of student learning**, and be **peer reviewed**.

In considering a response to this charge, and recognizing the distributed authority for promotion and tenure guidelines across IU's multiple campuses, we make the following recommendations that can serve as a set of university-wide guidance and expectations for implementing this charge at the campus, school, and department levels. Additional information and resources may be found in Appendix B.

Identifying Clear Expectations for Documenting Excellence in Teaching

Current guidelines for documenting excellence in teaching vary widely across IU departments, schools, and campuses. While variation is appropriate to our distributed promotion and tenure policy, there should be some consistency in the minimum expectations to ensure pervasive excellence in teaching and learning. In order to ensure consistency in the application of these guidelines, each campus should require academic units to develop plans and processes that clearly address the following issues.

General Principles

1. Focus on direct evidence of student learning.

While there are many important indicators of commitment to teaching excellence (e.g., professional development, teaching-related service, scholarship, etc.), direct evidence of student learning should remain the ultimate criterion for identifying excellence in teaching. Direct evidence of student learning requires that students have completed some work or product such as exams, papers, projects, or assignments that demonstrate achievement of specified learning outcomes. Other direct measures of student learning include course-specific standardized tests, student portfolios, and pre- and post- knowledge tests. Grades alone would not serve as direct evidence of student learning, nor would excellent (or poor) student end-of-course evaluations of teaching (Nilson, 2013). However, a faculty member's teaching effectiveness is understood to be measured by student products and performances of their learning. An analysis and reflection of assessment results such as those from exams, papers, projects, assignments that align with student learning outcomes are necessary (Suskie, 2009). It must be acknowledged, however, that factors other than teaching (e.g., student factors such as ability, socioeconomic background, educational preparation, and

interest) can impact student learning, so multiple sources of evidence should be used to evaluate teaching.

2. Rely on multiple sources of evidence and reflect on interconnections.

- a. Berk (2018) discusses the evaluation of teaching, saying, “There is no perfect source of evidence” (p. 76), and advocates drawing from three or more sources of evidence including data from students, the instructor, and peers to make the case for excellence. Data from students might include mid-semester student feedback, student course evaluations or student comments. Data from the instructor might include a teaching philosophy, quality course design, and quality course materials. Strong cases will include materials that demonstrate the application of evidence-based best practices involving backwards course design, assessments, instructional materials, course activities, learner interactions, learner support, course technology, and accessibility and usability (See [About Quality Matters](#)). Data from peers should include a formal peer review conducted by a trained peer reviewer.
- b. A strong case for excellence in teaching involves the presentation of and reflection on multiple sources of evidence that are interconnected to tell a story of growth and success in teaching. For example, details of professional development activities, subsequent teaching redesigns, peer reviews of those courses, student ratings, indirect measures of student learning, and analysis of whether student learning outcomes have been met should be synthesized into a faculty member’s narrative of focused attempts to improve a particular aspect of student learning (Berk, 2014). A possible narrative could describe a teaching feedback loop that details the faculty member’s process to identify an opportunity to improve student learning, to adopt new approaches, and to evaluate resulting changes in student learning. One example of such a feedback loop may be seen with [FACET's LEARN](#). Such narratives might be presented in the form of a teaching portfolio, which should make apparent and articulate reflective practice and the evidence upon which that reflection is based. The goal of such a portfolio should be to “document and make visible their teaching and their students learning ... to maximize the breadth of student understanding” (Bernstein, Burnett, Goodburn, & Savory, p. 8).

3. Focus on indicators of good teaching supported by research on teaching and learning.

- a. Excellence in teaching is made apparent when faculty identify and rely on evidence-based teaching practices to address teaching and learning challenges. The case for excellence in teaching is strengthened by providing a rationale for chosen approaches. The sources of these evidence-based practices are varied. In 1987, for instance, Chickering and Gamson identified seven principles for good practice in undergraduate education: encourage contact between students and faculty, develop reciprocity and cooperation among students, encourage active learning, give prompt feedback, emphasize time on task, communicate high expectations, and respect diverse talents and ways of learning. These seven

principles, based on more than 50 years of research on the way teachers teach and students learn, continue to form the foundation for evidence-based best practices today. More recently, Mayhew, Rockenbach, Bowman, Seifert, Pascarella, & Terenzini (2016, p. 59) found that “effective teaching encouraged students to spend time preparing for class, provided students with feedback, gave students opportunities to reflect, and actively engaged students in the learning process.” Similarly, Kuh (2015, 2016) identified eleven High Impact Practices that have been demonstrated to increase student engagement and retention: first-year seminars and experiences, common intellectual experiences, learning communities, writing-intensive courses, collaborative assignments, undergraduate research, diversity/global learning, service learning/community-based learning, internships, capstone courses and projects, and ePortfolios. Using instructional practices based on principles of how people learn is also an indicator of good teaching (Bransford, Brown, & Cocking, 2000; Ambrose et al, 2010). Evidence of engaging in these principles of effective teaching or high impact practices, although not direct evidence of student learning, can provide supporting documentation of teaching excellence.

4. Recognize that excellence in teaching goes beyond the classroom.

- a. As highlighted by the Faculty Academy on Excellence in Teaching (FACET), “teaching excellence encompasses not only demonstrated excellence in the classroom but leadership in teaching innovation, mentoring, peer review, and the scholarship of teaching and learning.” Course or curricular development, mentoring and advising, teaching grants and awards, and teaching-related leadership activities can all contribute to a case for excellence in teaching. The “intellectual work of teaching,” writes Daniel Bernstein, remains “only partially visible” to students and to faculty colleagues (p. 5). To address this deficiency, as Lee Shulman argues, requires that we “make teaching community—and therefore *valued*—property” (1993, p. 6). Kern, Mettetal, Dixson, and Morgan (2015) present a model of Dimensions of Activities Related to Teaching (DART) that greatly expands the definition of teaching to include scholarship of teaching and learning, scholarly teaching, and sharing about teaching. A case for excellence in teaching should include documentation of quality in one or more of these areas.

Recommendations for Identifying Pathways

Transparency and detail in evaluation criteria are vital to providing faculty members with clear direction in their career pathways, and consistency in evaluation processes is important for ensuring fairness and equity. These qualities can be ensured through the establishment of clear expectations and guidelines—e.g., plans for annual reviews, protocols for class observations, training of peer reviewers and mentors, and rubrics for evaluation.

In addition to the above guidelines for identifying and documenting excellent teaching, we recommend that units create comprehensive pathway documents that guide faculty members through the promotion and tenure processes. Such documents would identify expectations for what faculty members should accomplish and document in each year of their careers. Such a structure would provide clear guidance for both the faculty member under review and the departmental committees overseeing the processes. In order to provide a possible model, we have included a sample pathway in Appendix A.

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Appendix A: Pathways to Documenting Teaching Excellence

FIRST AND SECOND YEARS

From the beginning, you will want to establish a regular process by which you document your teaching effectiveness and reflect on your teaching, making adjustments as appropriate.

Documenting teaching excellence must always begin with being able to provide solid, direct evidence of student learning on appropriate student learning outcomes. While there are other important qualities of teaching excellence to recognize—inclusive teaching, teaching from a growth mindset, individual attention to student needs—and unfounded assumptions about what makes a good teacher—popularity, excessive rigor—the key indicator for excellence in teaching is direct evidence of student learning. The following table provides suggestions beyond that foundation for a **wide variety of activities in which you can engage that serve as evidence of teaching effectiveness and multiple ways you can document and reflect on your efforts**. Many of these activities are things you will begin at the start of your teaching career and that you will continue doing every year to help you create the teaching portion of your annual report.

Teaching is a craft, and it must be learned; excellence in teaching is achieved by intentional and diligent practice. You build towards teaching excellence, so you will be making your case over multiple years. You master the basics first, then layer on new techniques and innovations over time. You experiment--succeed at times, overcome failure at others—and are constantly seeking to improve student learning in your courses. Beginning with strong baseline documentation will make it easier to present a compelling case, whether for tenure and promotion, promotion within the non-tenure ranks, or in applying for teaching awards. **Select those items that are in accord with your departmental/campus role and your departmental/campus criteria. For example, the items labeled Essential, Highly Recommended, or Optional are presented here as part of a model pathway. Your campus may make different designations.**

We suggest creating a collection system—ideally electronic, for example, Box—for evidence of teaching and teaching-related activities. Collect and organize materials and artifacts related to teaching, such as syllabi, feedback from students, assignments, examples of student work as well as teaching grant applications, teaching-related professional development, teaching-related committee service, etc. Documents can be used both to demonstrate excellence and to show improvement.

UNDERSTAND YOUR GOALS (ESSENTIAL)	
Get a copy of your department/unit's promotion and tenure guidelines.	
BUILD A STRONG TEACHING FOUNDATION (ESSENTIAL)	
Activity	Documentation and Reflection
Develop/revise syllabi for each course you will be teaching. You may want to request assistance from your teaching center (CTL) in reviewing your syllabi to ensure you have clear learning objectives, have developed relevant activities and assessments that will help you measure student learning outcomes, and that your syllabi are accessible.	Track how you have changed these documents and note what effect you think these changes have made/will make in your teaching and in your students' learning and success.
Develop/refine course learning objectives so they are all measurable.	Keep records so that you can trace developments in learning objectives over time.
Align course learning objectives with class activities and assessments and other relevant learning objectives (major requirements, general education objectives, disciplinary standards, etc.)	Consider creating a document that maps how your class activities and assessments align with course learning objectives and other relevant learning objectives in your department, on your campus (for example, General Education Outcomes), and in your discipline. Begin collecting data demonstrating that students are achieving course learning objectives.
USE EXEMPLARY TEACHING METHODS (ESSENTIAL)	
Activity	Documentation and Reflection
Implement high-impact practices, evidence-based practices, principles of good practice, and/or strategies based on how people learn in order to improve teaching effectiveness and add authority to your practice. Seek out others on campus who are also using high-impact practices for support and other resources related to high-impact practices on campus.	Collect data on student learning and success in courses using these practices.

DOCUMENT YOUR STUDENTS' LEARNING (ESSENTIAL)	
Activity	Documentation and Reflection
Consider using Classroom Assessment Techniques (CATs) throughout the semester to collect data for the purpose of improving student learning. Develop assessments of student learning via formal and informal measures	Analyze the data during and across the semesters and reflect in writing on how your analysis has informed your teaching and improved student learning.
Document student achievements (e.g., graduate or professional school or employment, honors, presentations on and off campus, scores on national exams) associated with work in your courses.	Reflect in writing on these achievements with explicit connections to your teaching activities.
BUILD YOUR TEACHING NETWORK (HIGHLY RECOMMENDED)	
Activity	Documentation and Reflection
Identify a departmental teaching mentor with whom you can discuss the teaching and classroom environment within your department and on your campus.	Document what you learn and how you will incorporate that into your own teaching.
Locate your campus teaching center CTL and visit it to learn about the resources and opportunities it offers you for developing your teaching. Attend at least one teaching-related workshop or professional development activity each semester.	Reflect in writing on how you can incorporate knowledge or skills gained from the workshop or activity into one of your future class offerings.
Meet with colleagues in your department to ensure you understand how your courses fit into the curriculum, what prerequisite knowledge you can expect students to bring to the course, departmental expectations for the content and depth of your course and favored approaches/assessments/activities.	Document any changes you may make in your courses based on such conversations. Be sure to measure the effectiveness of these changes and reflect on how they improved student learning outcomes.
In your second year, consider cultivating a relationship with a teaching mentor outside of your department, possibly a FACET member on your campus .	Ask your teaching mentor to provide a formative evaluation letter.
Learn and implement your departmental or campus practices around curricular and advising/mentoring practices	If advising or mentoring students, use an assessment to measure the effectiveness of your advising or mentoring activities.

Explore options for teaching organizations you might join. These could include teaching organizations for your discipline.	Reflect in writing how you have used resources from such organizations.
REFLECT AND SEEK FEEDBACK ON YOUR TEACHING (HIGHLY RECOMMENDED)	
Activity	Documentation and Reflection
Develop a succinct written teaching philosophy that reflects your understanding of how students learn and how what you do facilitates student learning.	Seek out research about teaching and student learning to strengthen your philosophy. Continue to develop and revise your teaching philosophy, based on your evolving understanding of student learning, documented best practices in teaching, and the teaching environment on your campus. Even when a teaching strategy fails, if it is well-documented and analyzed, it provides evidence for excellence because it demonstrates that you are experimenting and innovating.
Collect student evaluation data, both standard departmental or campus evaluations plus any of your own informal evaluations (midterm, qualitative, formative may be helpful).	Discuss evaluations with your mentor. Reflect in writing on themes (both quantitative and qualitative) focused on student learning outcomes and treat this information as data to be used in shaping future decisions about teaching strategies. Relate your insights to your teaching philosophy. Note any changes you plan to make in course structure or pedagogy in response to student feedback and outcomes if available.
Arrange for a formative review of your teaching. On some campuses, the CTL may provide formative review. On other campuses, your teaching mentor or department chair may be the appropriate person to observe at least one of your class sections each year to conduct a formative peer review for you.	Collect formative feedback letters and take action on suggestions you receive. Reflect in writing on any changes you've made in response to such reviews in your faculty annual report.
Consider reviewing other colleagues' syllabi, assessments, and activities or visiting successful colleagues' classes to obtain ideas of how to teach. Make these formative peer reviews reciprocal and collaborative.	As you incorporate any useful ideas you get from your reviews and visits, be sure to document what you are doing in writing and reflect on your learning process.
By the end of your second year, obtain a summative review (which might be	Use the summative review as a basis for making changes to and reflecting on your

needed for your third-year review on some campuses). Consult with your department chair about an appropriate reviewer. Your CTL may also have trained reviewers available for this purpose; you could also check with FACET.	teaching. If needed, develop a plan of action to address any identified areas of for improvement.
DEVELOP NEW COURSES (OPTIONAL)	
Activity	Documentation and Reflection
In response to departmental or school/college needs, develop new courses that contribute to the curriculum. Such courses could be hybrid or online offerings. If appropriate, consider applying for campus curriculum development grants to support your activities.	Be prepared to document the value of your new offerings to your department or your school/college. Begin collecting data that may help you later document how your new course(s) improve student learning outcomes, contribute to curricular vitality and relevance, or help your students gain relevant skills that will benefit them in life after they graduate.

THIRD THROUGH FIFTH YEARS

You will continue to provide concrete evidence of your teaching effectiveness (as above), but at this point, if you are striving for excellence in teaching, you will need to ensure that you are beginning to provide evidence beyond mere effectiveness.

Some campuses have a formal third year review, while other campuses may offer an informal option through the CTL or the department. Use such a review to take stock of what you have accomplished and prepare a concrete plan to continue your progress towards teaching excellence. You will want to synthesize and reflect on the activities and outcomes of your first two years of teaching to develop your plan for the remaining tenure-track years. This would also be the appropriate time to discuss your plans to submit a case for promotion based on excellence in teaching with your department chair.

As you continue documenting your teaching effectiveness, you will want to begin to incorporate new activities that move you towards demonstrating excellence. As always, **select those items that are in accord with your departmental/campus role and your departmental/campus criteria** – you are not expected to engage in all of these activities.

ENGAGE IN PROFESSIONAL DEVELOPMENT	
Activity	Documentation and Reflection
If you are teaching an online or hybrid course, work with your CTL to gain Quality Matters certification for your course.	Document what you have learned in this process.
Participate in faculty learning communities and communities of practice.	Document what you have learned in this process and disseminated to others.
Participate in campus working groups dedicated to pedagogical innovation	Document what you have learned, implemented, and disseminated to others.
DEVELOP COURSES OR CURRICULUM	
Activity	Documentation and Reflection
Work with colleagues to develop new curriculum for your department.	Document how the new curriculum better meets student learning outcomes.
Work with colleagues to develop new majors, minors, and certificates for your department or campus.	Document your contributions, their significance, and their outcomes.
Transform an existing course or develop a new course to include: diversity, service learning, civic engagement, experiential learning, active learning (e.g., Mosaic Initiative), first year experience, just-in-time teaching, flipped classroom, high impact educational practices, etc.	Measure and report any student outcomes associated with these course transformations. Document any dissemination about the impact of your course changes within the profession and evidence that the work has been adopted by others (locally and nationally)
MENTOR OR ADVISE STUDENTS	
Activity	Documentation and Reflection
Supervise independent study, undergraduate research and/or graduate research. (Some departments may view this as research.)	Describe the student project and your role.
Supervise student presentations, publications, projects, or initiatives. (Some departments may view this as research.)	Describe the contributions of each person involved in the project.
Supervise student participation in academic competitions.	Describe the outcomes of the work and any feedback received.
Serve as a mentor or advisor to students	Document the number of students you mentor or advise and their accomplishments. Document the use of a

	scholarly and reflective approach to mentoring and advising.
ENGAGE IN SCHOLARLY TEACHING AND SOTL	
Activity	Documentation and Reflection
For courses you have taught and revised multiple times, consider conducting SoTL research to assess how your changes have affected student learning outcomes.	Measure student learning outcomes associated with your course and connect them to departmental or campus student learning goals. Reflect on how you might be able to improve student performance in the course.
If you have developed new courses (face-to-face, online, or hybrid), consider conducting SoTL research to assess how this course is meeting departmental student learning outcomes.	Measure student learning outcomes associated with your course and connect them to departmental or campus student learning goals. Reflect on how you might be able to improve student performance in the course.
Present your SoTL or other teaching-related work at a local, regional, or national teaching conference(s). Present your SoTL or other teaching-related work at other campuses as an invited speaker.	Reflect in writing on any formal or informal feedback on the presentation. Note any evidence that the work has been adopted by others (locally or nationally).
Write and publish SoTL and/or other instructional publication(s) (e.g., peer-reviewed articles, book chapters, textbooks, workbooks, manuals, digital works, and edited volumes). (Some departments may view this as research.)	Identify a major theme or area for your research. Pursue lines of inquiry that fit with this theme. Note citations of your work by others and evidence that the work has been adopted by others (locally or nationally).
PRESENT ON TEACHING	
Activity	Documentation and Reflection
Develop and present a workshop on campus (for the CTL or other unit) on an instructional activity or pedagogical practice.	Record attendance and obtain feedback from participants on the value of the workshop.
OBTAIN TEACHING-RELATED GRANTS	
Activity	Documentation and Reflection
Secure teaching or course development grants .	Document outcomes of the grant

APPLY FOR TEACHING AWARDS	
Activity	Documentation and Reflection
If eligible, apply for and receive teaching award(s) (e.g., Trustees Teaching Awards (TTAs), department or campus-based teaching awards, Distinguished Teaching Awards , FACET membership , disciplinary teaching awards).	Use your award application as documentation. Indicate the ways in which the award impacted your teaching practices.
PERFORM TEACHING-RELATED SERVICE	
Activity	Documentation and Reflection
Serve on relevant departmental or campus committees or task forces related to teaching (assessment, general education, curriculum, CTL advisory board, etc.).	Document your contributions, their significance, and their outcomes.
Serve in a professional organization related to teaching (e.g., become an officer in the organization, organize conferences or chair/organize conference sessions).	Reflect in writing the impact of your contribution to the goals of the organization(s). Solicit reviews of your contributions from peers on the committees.
Volunteer as a reviewer for refereed pedagogical journals, conferences, textbooks, etc. (Some departments may view this as service.)	Record the quantity of reviews and venues for which reviews are conducted.
Conduct peer reviews of teaching for colleagues or review their teaching-related materials and/or products. Serve as a mentor to a colleague. On many campuses, training is provided for peer reviewers. Becoming a trained peer reviewer has many advantages on these campuses.	Document the time spent in mentoring or reviewing colleague(s). Describe the types of activities (such as reviewing syllabi, observing class(es), etc.) and any non-confidential outcomes.
Serve on teaching awards selection committees and teaching/SoTL grant selection committees.	Reflect in writing the impact of your contributions. Solicit reviews of your contributions from peers on the committees.
DEMONSTRATE LEADERSHIP IN TEACHING	
Activity	Documentation and Reflection
Lead departmental or campus faculty development efforts	Document the purpose of the professional development and the activities offered,

	topics addressed, attendance, impact, and feedback from participants
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SIXTH YEAR AND BEYOND

DEMONSTRATE CONTINUED LEADERSHIP IN TEACHING	
Activity	Documentation and Reflection
Evaluate teaching of junior faculty	Document the time spent in reviewing colleague(s). Describe the types of activities (such as reviewing syllabi, observing class(es), etc.) and any non-confidential outcomes.
Establish mentor-mentee relationships with junior faculty and peers	Document the time spent in mentoring colleague(s). Describe the types of activities (such as reviewing syllabi, observing class(es), etc.) and any non-confidential outcomes.
Chair discipline-based pedagogy interest groups	Reflect in writing the impact of your contribution to the goals of the group(s). Solicit reviews of your contributions from peers in the group.
Participate on pedagogical journal advisory board(s)	Record the work done on the board. Reflect in writing the impact of your contribution to the goals of the group(s).
Propose and/or manage faculty learning communities or communities of practice	Reflect in writing the impact of your contribution to the goals of the group(s). Solicit reviews of your contributions from peers in the group.
Participate in high-level campus discussions or university level discussions of pedagogy-related issues	Reflect in writing the impact of your contribution to the goals of the group(s).
Participate on advisory boards and steering committees of organizations recognized for pedagogical leadership (CTL's, FACET, teaching academies)	Document your contributions, their significance, and their outcomes.
Participate in leadership of regional, national, or international working groups dedicated to pedagogical innovation or excellence (AAC&U, LEAP IN, ...)	Document your contributions, their significance, and their outcomes.

This framework is modeled after [Documenting Teaching Effectiveness from PFW](#)

Appendix B: Additional Resources and Sources by Category

Scope of teaching

- Bishop-Clark, C., & Dietz-Uhler, B. (2012). *Engaging in the scholarship of teaching and learning: A guide to the process and how to develop a project from start to finish*. Sterling, VA: Stylus.
- Kern, B., Mettetal, G., Dixon, M., & Morgan, R. (2015). The role of SoTL in the academy: Upon the 25th anniversary of Boyer's Scholarship Reconsidered. *Journal of the Scholarship of Teaching and Learning*, 15(3), 1-14.. doi: 10.14434/josotl.v15i3.13623.
- McKinney, K. & Cross, K. P. (2007). *Enhancing learning through the scholarship of teaching and learning: The challenges and joys of juggling*. San Francisco: Jossey-Bass.
- Miller-Young, J., & Yeo, M. (2015). Conceptualizing and communicating SoTL: A framework for the field. *Teaching & Learning Inquiry*, 3(2), pp. 37-53.

Assessment of Learning

- Barkley, E. F., & Major, C. H. (2015). *Learning assessment techniques: A handbook for college faculty*. John Wiley & Sons.

Direct Evidence of Student Learning

- Nilson, L. B. (2013). Measuring student learning to document faculty teaching effectiveness. In E. Groccia & L. Cruz (Eds.) *To Improve the Academy: Resources for Faculty, Instructional, and Organizational Development*, 32(1), 287-300.
- Suskie, L. (2009). *Assessing student learning: A common sense guide. 2nd Edition*. San Francisco: John Wiley & Sons, Inc.

Evaluating Teaching

- Berk, R. A. (2014). Should student outcomes be used to evaluate teaching? *Journal of Faculty Development*, 28(2), 87-96.
- Berk, R. A. (2016). Value of value-added models based on student outcomes to evaluate teaching. *Journal of Faculty Development*, 30(3), 73-81.

High Impact Practices

- Kuh, G. D. (2008). Excerpt from *High-impact educational practices: What they are, who has access to them, and why they matter*. Association of American Colleges and Universities.

Kuh, G. D. (2016). Making learning meaningful: Engaging students in ways that matter to them. *New Directions for Teaching and Learning*, (145), 49-56.

Watson, C. E., Kuh, G. D., Rhodes, T., Light, T. P., & Chen, H. L. (2016). ePortfolios—The Eleventh High Impact Practice. *International Journal of ePortfolio*, 6(2), 65-69.

Indicators of Good Teaching

Chickering, A. W. & Gamson, Z. F. (1987). Seven principles for good practice in undergraduate education. *AAHE Bulletin*, 39(7): 3-7. Retrieved from: <http://www.aahea.org/aahea/articles/sevenprinciples1987.htm> IUS Principles of Teaching and Learning

Learning

Ambrose, S. A., Bridges, M. A., DiPietro, M., Lovett, M. C., Norman, M. K. (2010). How learning works: Seven research-based principles for smart teaching. San Francisco: Jossey-Bass. (e-book available)

Bransford, J. D., Brown, A. L., & Cocking, R. R. (Eds.). (2000). How people learn: Brain, mind, experience and school (Expanded edition). Washington, D.C.: National Academies Press. (e-book available)

Mayhew, M. J., Rockenbach, A. N., Bowman, N. A., Seifert, T. A., Wolniak, G. C., Pascarella, E. T., & Terenzini, P. T. (2016). *How college affects students: 21st century evidence that higher education works*. Retrieved from <https://ebookcentral.proquest.com> (pp. 591-594)

Multiple Forms of Evidence

Berk, R. A. (2018). Start spreading the news: Use multiple sources of evidence to evaluate teaching. *Journal of Faculty Development*, 32(1), 73-81.

Peer Review

Bandy, J. (n.d.). *Peer Review of Teaching*. Retrieved from: <https://cft.vanderbilt.edu/guides-sub-pages/peer-review-of-teaching/>

Bernstein, D., Burnett, A. N., Goodburn, A., & Savory, P. (2006). *Making teaching and learning visible: Course portfolios and the peer review of teaching*. Bolton, MA: Anker Publishing Company.

Chism, N. V. N. (2007). *Peer review of teaching: A sourcebook. 2nd Edition*. San Francisco: John Wiley & Sons, Inc.

Millis, B. J. (2006). Peer observations as a catalyst for faculty development. In P. Seldin & Associates, *Evaluating Faculty Performance: A Practical Guide*

to Assessing Teaching, Research, and Service (pp. 82-95). Bolton, MA: Anker.

Wilkerson, L. & Lewis, K. G. (2002). Classroom observation: The observer as collaborator. In K. H. Gillespie, L. R. Hilsen, & E. C. Wadsworth (Eds.), *A Guide to Faculty Development: Practical Advice, Examples, and Resources* (pp. 74-81). Bolton, MA: Anker.

IUS Peer Review Manual

FACET

Fernandez, C. E., & Yu, J. (2007). Peer review of teaching. *The Journal of Chiropractic Education*, 21(2), 154-161.

Georgiou, H., Sharma, M., & Ling, A. (2017). *Peer review of teaching: What features matter? A case study within STEM faculties*. Innovations in Education and Teaching International. Retrieved from <https://doi.org/10.1080/14703297.2017.1342557>

Peer Review of Teaching. Retrieved from: <https://citl.indiana.edu/teaching-resources/documenting-teaching/peer-review-teaching/>

Student Ratings

Benton, S. L., & Cashin, W. E. (2012). *Student Ratings of Teaching: A Summary of Research and Literature*. Idea Paper #50. Retrieved from: https://www.ntid.rit.edu/sites/default/files/academic_affairs/Sumry%20of%20Res%20%2350%20Benton%202012.pdf

Best practices for using student ratings of teaching in personnel decisions. Retrieved from: <http://www.crlt.umich.edu/evaluation/decision>

Jamison, S. (2004). Likert Scales: How to (ab) use them. *Medical Education*, 38(4), 1212-1218.

Linse, A. (2017). Interpreting and using student ratings data: Guidance for faculty serving as administrators and on evaluation committees, *Studies in Educational Evaluation*, 54, 94-106.

Willett, T. (n.d.). Analyzing Likert Scale data: The rule of N=30. Retrieved from: <http://www.sim-one.ca/community/tip/analyzing-likert-scale-data-rule-n30>

Teaching

Bain, K. (2011). *What the best college teachers do*. Harvard University Press.

Groccia, J. E., & Buskist, W. (2011). Need for evidence-based teaching. *New Directions for Teaching and Learning*, 128, 5-11.

Nilson, L. B. (2016). *Teaching at its best: A research-based resource for college instructors*. John Wiley & Sons.

Teaching Portfolio

Seldin, P., Miller, J., & Selden, C. (2010). *The teaching portfolio: A practical guide to improved performance and promotion/tenure decisions*. San Francisco, CA: Jossey-Bass.