

Teaching Methods

Once you have designed your course, your next steps will be to implement strategies and best practices to help you meet the challenges of instruction. In general, teaching methods consist of the principles, pedagogy and management strategies used for instruction. Many elements of your environment can affect your choice of teaching methods. Some of these elements include your educational philosophy, students' needs, subject area(s) and school mission statement. It is important to be flexible and consider a wide variety of teaching methods in order to attain the desired learning outcomes and reach all students. Review these teaching tips pages to learn more about different teaching methods you could incorporate.

- Direct Instruction
- Flipping the Classroom
- Active Learning

Direct Instruction

Direct instruction refers to teaching methods that rely on the instructor presenting information to learners. Direct instruction in the form of lecturing is one of the most common forms of teaching.¹ It is an efficient way to provide information to students. However, some research suggests didactic lecture styles (e.g., presenting content to students without interaction) tend to be the least effective.² Other approaches to lecture or other types of lecture can increase student learning³, but planning and creating such interactive lectures may require some additional effort.

Below are a few links to resources that can help you create more effective and engaging lectures. [CONTACT ETI](#) to meet with an ETI colleague to discuss ways to develop more effective lectures.

- [Indiana University Center for Innovative Teaching and Learning](#)
 - Addresses the challenges of lecturing, including: lecture organization, speaking skills, classroom authority, building rapport and shorter attention spans.
- [University of Texas at Austin Faculty Innovation Center](#)
 - Presents tips on how to plan and deliver effective lectures.
- [University of Washington Center for Teaching and Learning](#)
 - Explains how to prepare lectures that are effective and engaging.

References:

1Wieman, C. E. (2014). Large-scale comparison of science teaching methods sends clear message. *Proceedings of the National Academy of Sciences*, 111(23), 8319-8320. doi:10.1073/pnas.1407304111

2Roopa, S., Geetha M, B., Rani, A., & Chacko, T. (2013). What type of lectures students want? - a reaction evaluation of dental students. *Journal of clinical and diagnostic research : JCDR*, 7(10), 2244-6.

3Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., & Wenderoth, M. P. (2014). Active learning increases student performance in science, engineering, and mathematics. *Proceedings of the National Academy of Sciences*, 111(23), 8410-8415. doi:10.1073/pnas.1319030111

Flipping the Classroom

The flipped classroom is another method in the faculty toolbox for creating high-impact learning experiences. This approach does not simply mean putting some content online and continuing to lecture in the classroom. Instead, the Flipped Classroom approach entails designing a lesson so that so that learners gain knowledge before and after class (e.g. via readings or other assignments) and actively apply what was learned in those assignments during the classroom time. The flipped classroom approach allows students to benefit from real-time application, feedback/and assessment through the expertise provided by instructors and facilitators and even other learners. Research has demonstrated the effectiveness of the flipped classroom approach. One study focused on University of North Carolina Eshelman School of Pharmacy students found that attendance, learning and perceived value increased as a result of implementing a flipped classroom. In another study, residents who participated in flipped classrooms demonstrated improved quality improvement knowledge compared with the control group.

Below are a few links to resources to help you become more familiar with the flipped classroom approach. Many also provide examples of how faculty members have flipped their classes.

[CONTACT ETI](#) to meet with an ETI colleague for more help with your transition to a flipped classroom.

- [Carnegie Mellon Teaching Excellence & Educational Innovation: Flipping the Class](#)
 - Explains the flipped classroom approach, describes benefits and provides tips on how to get started on flipping the classroom.
- [Cornell University Center for Teaching Innovation](#)
 - Provides background information on the flipped classroom, key considerations for flipping, and how to get started.
- [Duke Learning Innovation](#)
 - Lays out basic approaches and methods for flipping a class.
- [University of Texas Faculty Innovation Center](#)
 - Describes the flipped classroom approach and benefits, and also discusses how to get started.
- [University of Washington Center for Teaching and Learning](#)
 - Explains flipping and provides links to quick start guides, examples, and flipping strategies.
- [Vanderbilt Center for Teaching](#)
 - Discusses the history of the flipped classroom and related approaches, explains why flipping is effective and explores key elements of the flipped approach.

References:

1McLaughlin, J. E., Roth, M. T., Glatt, D. M., Gharkholonarehe, N., Davidson, C. A., Griffin, L. M., . . . Mumper, R. J. (2014). The Flipped Classroom: A Course Redesign to Foster Learning and Engagement in a Health Professions School. *Academic Medicine*, 89(2), 236-243. doi:10.1097/acm.0000000000000862

2Bonnes, S. L., Ratelle, J. T., Halvorsen, A. J., Carter, K. J., Hafdahl, L. T., Wang, A. T., . . . Wittich, C. M. (2017). Flipping the Quality Improvement Classroom in Residency Education. *Academic Medicine*, 92(1), 101-107. doi:10.1097/acm.0000000000001412

Active Learning

Active learning is a combination of instructional activities that involves students doing things —reading, discussing, writing—while they think about what they are doing, in contrast with a more standard model of education in which students receive information passively. Unlike more traditional learning, active learning requires higher-order thinking. Activities that promote active learning range from the very simple (e.g., pausing lecture to allow students to clarify and organize their ideas by discussing with neighbors) to the more complex (e.g., using case studies as a focal point for decision-making). The benefits of active learning include improved exam scores¹ and increased learning.

Below are a few links to resources to help you become more familiar with the active learning approach.

[CONTACT ETI](#) to meet with an ETI colleague to discuss possibilities for the implementation of active learning.

- [Cornell University Center for Teaching Innovation](#)
 - Provides background information on active learning, key considerations and how to get started.
- [Duke Learning Innovation](#)
 - Presents active learning technique examples and additional resources.
- [University of Minnesota Center for Educational Innovation](#)
 - Defines active learning; suggests sample learning strategies, activities, and tips for successful implementation; addresses some of the challenges of active learning.
- [University of Pennsylvania Center for Teaching and Learning](#)
 - Explains UPenn’s Structured, Active In-class Learning (SAIL) approach and shows SAIL class examples.
- [Vanderbilt Center for Teaching](#)
 - Defines active learning, presents the theoretical background as well as evidence that it works, explores techniques and suggests how to get started.
- [National Academies of Sciences Engineering Medicine](#)
 - A free downloadable book presenting learning research that supports the use of active learning and has implications for the design of formal instructional environments from K-12 through higher education. PLEASE NOTE: the Rights section of the download page indicates that, while the book is available for downloading from that site, it cannot be shared or redistributed, even for educational use, without seeking permission and paying appropriate fees.

References:

- 1Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., & Wenderoth, M. P. (2014). Active learning increases student performance in science, engineering, and mathematics. *Proceedings of the National Academy of Sciences of the United States of America*, 111(23), 8410-5.
- 2Hake, R. R. (1998). Interactive-engagement versus traditional methods: A six-thousand-student survey of mechanics test data for introductory physics courses. *American Journal of Physics*, 66(1), 64-74.
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