

NEW YORK INSTITUTE
OF TECHNOLOGY

Center for Teaching &
Learning

**SMALL CHANGES,
BIG IMPACT:**

Promoting Student Engagement

SPECIAL THANKS TO THE CONTENT CREATORS: Lori Hochman, Sophie Christman, Shaina Flanzraich, Eric Greenberg, Melissa Huey, Pam Karp, and Nayoung Kim

Introduction

In 2022-2023, the [Center for Teaching & Learning](#) introduced a new program called [Communities of Practice \(CoP\)](#): small, interdisciplinary groups of faculty and staff who meet regularly to exchange ideas on an area of common interest. Each community also creates a product to “give something back” to the New York Tech community at large.



Each year, a call goes out to faculty and staff to propose a CoP on a topic that interests them. You don't need to be an expert to start a community—just someone with a desire to bring people together to discuss a topic of mutual interest and share practices. Facilitators organize the groups to meet monthly and work with community members to set goals, and all the members take part in setting the agenda for the meetings. Past communities have included:

- Amplify your Teaching: Small Changes, Big Impact
- Best Classroom Ideas and Worst Teaching Challenges: Share and Improve
- Building Bridges: Faculty Advising for Student Success
- Don't let your manuscripts collect dust: Submit them this academic year!
- Fostering student community across New York Tech campuses
- Ready, Set, Publish!
- Reflective Teaching Circles

The information included in this booklet was created by one of our CoP communities, which focused on how small changes made to one's teaching can have a big impact on student learning. The booklet includes **techniques you can use to add more dimension and involvement to traditional, lecture-based classes**. Giving students the opportunity to actively engage with the material they are learning is proven to help them better consolidate and retain knowledge.

I invite you to keep this booklet handy—as well as take advantage of the [digital version](#)—and use it regularly when you're looking for new class engagement practices to add to your own pedagogy.

Learn more about our Communities of Practice [here](#). If you would like to start a community on a particular topic, please contact me directly at fglazer@nyit.edu.

Enjoy!

A handwritten signature in cursive script, appearing to read "Francine".

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Special Thanks to the Members of “Amplify Your Teaching: Small Changes, Big Impact”

The faculty members who participated in this community of practice met monthly to share the successes and challenges they experienced while teaching. They supported each other in rethinking their practice and experimenting with new teaching methods. This resource is based on their great work and includes some of the ideas they found most valuable.



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Elements of Effective Teaching and Learning

Empowering learners to take charge of their learning process can lead to increased engagement and improved learning outcomes. An increased sense of agency means students feel more in control of their learning process, take a more active role in it, and are more motivated. In the “Amplify Your Teaching: Small Changes, Big Impact” CoP, participating faculty members learned from each other about strategies they could implement easily.



Before discussing classroom engagement techniques, it is important to understand the components of effective teaching and learning. Here are five concepts and ways to operationalize them in class, with an emphasis on easy techniques that work for many disciplines and don't require huge changes to your course.

Metacognition

Metacognition is thinking about one's own thinking and learning. This teachable skill supports problem solving and critical thinking. Reflection is a vital part of this process, allowing students to describe, write, or talk about their learning and how their thought processes may have changed.

Teaching tools/examples:

- Reflective journaling (*e.g., about an internship or a fieldwork experience*)
- Having students read an article and reflect on what they learned or where they need more information
- Having students write about how they studied for an exam and what they would do differently next time

Reflection

Reflection enables students to consolidate what they have learned and identify any gaps in their knowledge. It allows them to make connections between what they are learning and their own experiences, goals, and values.

Teaching tools/examples (*learn more about these techniques on page 12*):

- Minute papers
- Exit tickets
- Think-Pair-Share

Intrinsic Motivation

Intrinsic motivation means that students are doing an activity for the sake of learning or satisfaction, not for the consequence or grade.

Teaching tools/examples:

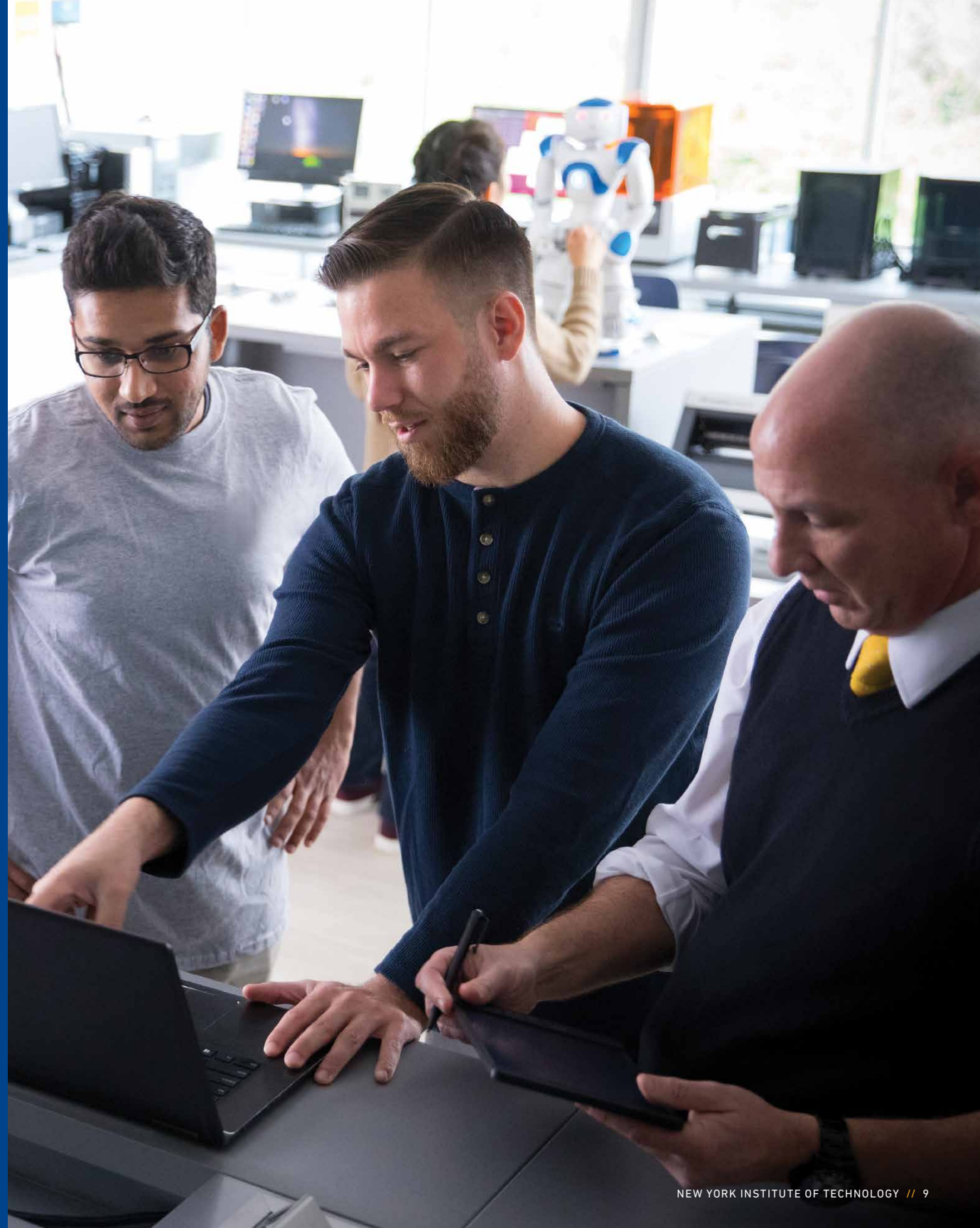
- Show how the topic of study applies in real life
- Providing autonomy in topic selection and choices on reflection prompts
- Allowing students to select media to share on a certain topic

Transfer of Knowledge

Transfer of knowledge is the ability to transfer skills or information from one context to another. This type of learning shows deeper comprehension of the material as the learner transfers the material to a new situation, framework, or environment.

Teaching tools/examples:

- Inquiry-based learning
- Active learning activities that encourage independent thinking
- Case studies
- Linking previously taught material to new material



Autonomous Learning

When learners have the autonomy to choose topics of interest, engage in self-directed activities, and participate in collaborative learning, they are more likely to be intrinsically motivated and invested in their educational journey. This approach fosters a sense of responsibility and ownership, contributing to more satisfying and successful learning.

Teaching tools/examples:

- Having students share relevant videos or media pertaining to the class topic (*individually or in groups*)
- Allowing students to exercise choice by selecting their own topics of interest
- Assigning concise minute-long presentations on subjects that haven't been discussed yet
- Empowering students to teach their chosen topics to their peers



Techniques to Stimulate Key Concepts and Increase Engagement

Here are some examples of techniques you can use to get students to reflect on and actively process what they are learning. Different techniques work better for different types of content, so experiment and see what works best for you.



Entry and Exit Tickets

Assess students' knowledge and preparation pre- and post-class

Entry tickets can be used at the start of class to assess a student's basic understanding of a topic and if they have done any essential pre-work before coming to class. Students can submit them electronically on Canvas prior to class, or by handing in a document when walking into the room.

Exit tickets are used at the end of class to prompt students to think about what they learned by asking them to describe what they learned during the session, items that stood out to them, or things they might be confused about. You can also make the exit ticket a solution to a problem that students were working on during class, or a concept map connecting key pieces of information. If you set aside time in class for groups to do work, having each group submit an exit ticket is a great way to hold them accountable to staying on task.

Minute Paper

Short answer submissions during class to assess students' comprehension

Usually submitted anonymously, minute papers can be used at any point during a class session as a quick way to assess whether your students understand what they are learning.

The best-known prompts for minute papers are: "What are the three most important points you learned today? What don't you understand?" Students write and submit short answers to the questions, which gives you a snapshot of whether they grasped the main points, and if any misconceptions need to be corrected.

Other valuable questions include:

- How would you describe what you learned today to a college student outside your major?
- What could you have done differently today to help yourself learn better?
- What could I, the teacher, do differently to help you learn?
- What do you remember from today's class that was especially interesting?

Think-Pair-Share

Help students think independently, share their ideas, and collaborate on solutions

Think-Pair-Share is a collaborative learning experience that allows students time to think independently about a given topic, learn how to share their ideas with peers, and work together to solve problems or answer complex questions. This activity increases student engagement and participation even as it creates time for students to process difficult information.

Think: Allow a few minutes for students to independently brainstorm and come up with specific questions about the task, scenario, reading or video/media.

Pair: Put students into small groups of 2-3 to discuss their questions for 3-5 minutes and come up with solutions together.

Share: The group of students can present their solutions to the class, or the class can come together and discuss the topic by raising their hands and sharing their group's thoughts/solutions.

Knowledge Checks

Employ interactive elements to increase engagement and retention

Knowledge Checks use interactive elements such as quizzes, polls, or games to engage viewers and help them retain the information presented. They can also provide real-time feedback and data regarding student comprehension. You can use this technique at the start of class to discern the level of baseline knowledge; in the middle of class to gauge the group's ability to grasp a concept or determine if more time needs to be spent reviewing a topic; or at the end of class to determine overall understanding.



Structured Use of Media to Increase Student Engagement

For best results, keep media clips short, ideally under 5 minutes and no longer than 10 minutes.

Media can be used in many ways, for many purposes. When identifying media for use, it's critical to have a clear understanding of what you are trying to accomplish. Use the QR code below to go to a curated list of videos exemplifying the following approaches:

- **Evoke emotion with an inspirational message.** Emotions can activate curiosity, purpose in students as well as enthusiasm and compassion within instructors. Utilizing various multimedia to evoke feelings towards content or real-life situations. The use of people's stories can allow students to relate to the content and be invested in the concepts.
 - ▶ Media examples:
 - ◊ [I love to watch you play](#)
 - ◊ [Jim Valvano ESPY awards speech](#) (use for public speaking)
 - ◊ [Grit TED talk](#) (found on YouTube)
- **Promote critical thinking.** Utilizing multimedia to encourage curiosity can be an effective teaching strategy to promote critical thinking. Explicitly drawing attention to a student's prior knowledge can help to form new connections between what they already know and newly formed ideas.
 - ▶ Media examples:
 - ◊ [Ship of Theseus](#)
 - ◊ [New York Times rules game](#)
- **Introduce the topic for the day in an interesting and exciting way.** Using outside information with an attention-grabbing hook that relates to the topic of the class, such as a surprising fact, a provocative question, or a striking visual that piques the viewers' curiosity, can help to motivate students for the day's lesson.
 - ▶ Media examples:
 - ◊ [Understanding Pain](#)
 - ◊ [Hank Green: Crash Course](#)
 - ◊ [Ninja Nerd](#)
- **Apply theory to real life contexts.** A story that illustrates the importance or relevance of the topic of the class, such as a personal anecdote, a historical narrative, or a case study that highlights the real-world implications of the subject matter, can offer students reasons for why the subject matter is relevant to their lives.
 - ▶ Media examples:
 - ◊ [Backwards bicycle](#)



Scan to go to
a curated list
of videos



Where to Find Media

You can find media for instructional use in multiple places, including the following. As always, use your best judgment about the quality of third-party sources when curating content.

- Open Educational Resources (OER)
- Animations provided by textbook publishers
- Movies segments/clip
- YouTube
- TED talks
- Ninja Nerd, Khan Academy
- News/TV segments
- Portion of a webinar
- Podcast snippets/segments/shorts
- Radio/music segments

When to Use These Techniques

Choosing when to use these techniques within the class meeting plays a crucial role in optimizing the learning experience.



At the start of the class, it is important to prepare students for what lies ahead. This involves setting expectations, outlining the agenda, and stimulating readiness to learn by generating interest in the upcoming topic. Engaging with students right away establishes a positive and interactive tone for the session.

Within the class, the following techniques can be employed to break up the class and regain attention. This approach can also allow opportunity for more voices to be heard aside from the instructor, promoting a diverse learning environment. Additionally, continually shifting attention to various forms of media helps decrease boredom and maintain student

engagement. Most techniques allow real-time feedback regarding student understanding to be gathered during this phase, allowing for timely adjustments to the teaching approach.

As the class nears its end, focusing on solidifying an important concept reinforces key learning points. This concentration on specific concepts underscores their importance and aids in emphasizing critical takeaways for the students. Introducing a novel topic towards the end encourages independent thought and preparation before the next class meeting, fostering a sense of continuity and anticipation in the learning process.

More Tips for Success

As you try the techniques in this booklet, keep in mind that they might not work perfectly the first time around. Here are some field-tested tips to help things run smoothly.

- Stimulate your students' curiosity.
- Encourage students to ask questions as they embark on fresh learning assignments.
- Offer students meaningful options that correlate with educational goals and promote self-assessment of their comprehension.
- Provide timely and actionable feedback on student work. Commend students who demonstrate additional effort on their assignments.
- Engage students in formulating goals and participating in choices concerning their learning objectives.
- Foster a growth mindset among your students. They may not be good at a particular skill yet, but if they apply themselves and practice, they can learn.
- Assist your students in making connections between what they are learning and what they already know. The more connections you can make, the more engaging the subject matter, and the deeper the learning.
- Encourage students to reflect on their own learning processes, what works, and what doesn't. Learning is a personal journey, and students should be encouraged to develop their own approach.



Resources for Further Reading

Darby, F., & Lang, J. M. (2019). *Small Teaching Online: Applying Learning Science in Online Classes*. Jossey-Bass.

GauTam, Amit. [*Learner Autonomy: The Why and How of Giving Learners Control Over Their Own Learning Journey*](#).

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Lang, J. (2021). *Small Teaching: Everyday Lessons from the Science of Learning*. Jossey-Bass, 2nd ed.

McCombs, Barbara. [*Developing Responsible and Autonomous Learners: A Key to Motivating Students*](#).

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[University of Nebraska - Lincoln Center for Transformative Teaching](#).

Accessed January 22, 2024





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