The Top Hat Guide to

Intentional
Course Design

Create a course that fosters enduring learning,
belonging and clarity of purpose every step of the way

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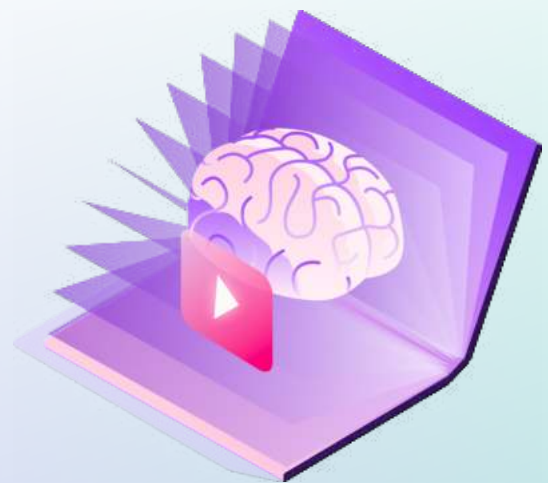
Introduction

In my early days as an instructor, students were engaged in my lectures and my course evaluations were overwhelmingly positive. But it took a push from a mentor to make me question whether what I was doing was, in fact, helping my students learn and develop.

The desire to improve my course design wasn't simply to see more students succeed on the final exam. I wanted to create meaningful learning experiences that would endure in their approach to understanding and living in the world.

This guide encompasses the many influences that have helped develop my teaching practice. From backward design and significant learning, to equitable teaching and evidence-informed iteration—my hope is this guide offers insights, tools, and inspiration to help you make an even bigger difference to your students.
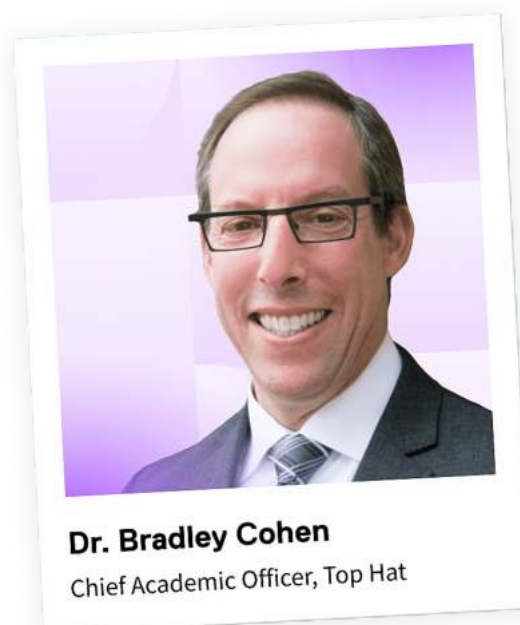
Sincerely,

Dr. Bradley Cohen
Chief Academic Officer
Top Hat

Dr. Bradley Cohen
Chief Academic Officer, Top Hat

1. Backward Design

The superpower of backward design is
that it encourages intentionality. It asks us to
consider the purpose behind everything we do.
Clearly defining the learning goals at the outset,
the 'why' behind each assessment, and how
instruction will support the course objectives
also makes it easier to communicate the
value of what you're asking students to do.

3 Stages of Backward Design

In backward design, instructors begin the planning process by
considering the goals for the course—the knowledge and skills
you'd like your students to learn. Once established, the next step
is to consider how you will assess that the learning goals have
been achieved. Only then do you embark on creating the content
and activities that will lead students to the desired outcome.

The following template walks you through each step of the backward design process and is adapted from *Understanding by Design* (Wiggins and McTighe, 2005).

Stage 1: Identify your desired results

Transfer
How will students be able to apply the knowledge they gain outside the context of the course?

Established Goals
What are the key objectives? What would you like students to know or be able to do?

Meaning

Understanding
What big ideas will students have internalized when they have completed the course?

Essential Questions
What questions will you use to frame your course to encourage inquiry, understanding, and knowledge transfer?

Acquisition
What knowledge or skills will students acquire from the course? This includes concepts, strategies, processes, methodologies, and information you expect students to know and retain.

Stage 2: Determine how you will assess learning

Evaluative Criteria
What specific criteria will students be evaluated on?

Assessment Evidence

Performance tasks
What tasks will students be required to complete to demonstrate they have achieved the desired understanding, skill attainment or both?

Other evidence
What other evidence, including homework, quizzes, and smaller assignments will be required of students to demonstrate they have achieved the desired results?

Step 3: Planning content and instruction

In addition to lectures, what role will discussions and debates, problem solving exercises, peer instruction, or experiential learning play in ensuring students achieve the objectives of the course?

Reduce Cognitive Load

Use Top Hat as your homebase for learning.

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Use Top Hat Pages to create an interactive syllabus to excite students starting on day one

Centralize lectures, quizzes, assignments and readings all in one place

Top Hat's Course Tree makes it easy for students to stay on top of their learning journey

Parting Thoughts

While foundational, on its own, backward design can easily lead to a stale, overengineered, and soulless course experience. The rigor that makes backward design effective may force instructors to 'stick to the program,' hindering the spontaneity that can make learning memorable. Others argue it may not take into account what students need in the moment or that educators can become so focused on specific measures of success as to miss opportunities to connect course content to the things students care about.

Enter L. Dee Fink's work on significant learning …

2. Significant Learning

L. Dee Fink's seminal book *Creating Significant Learning Experiences* offers an important refinement on backward design. Significant learning emphasizes that for enduring learning to occur, students need to make connections between what they are learning about and their own lives, interests, experiences, and aspirations.

In Pursuit of Enduring Learning

Challenge yourself to think about BIG questions:

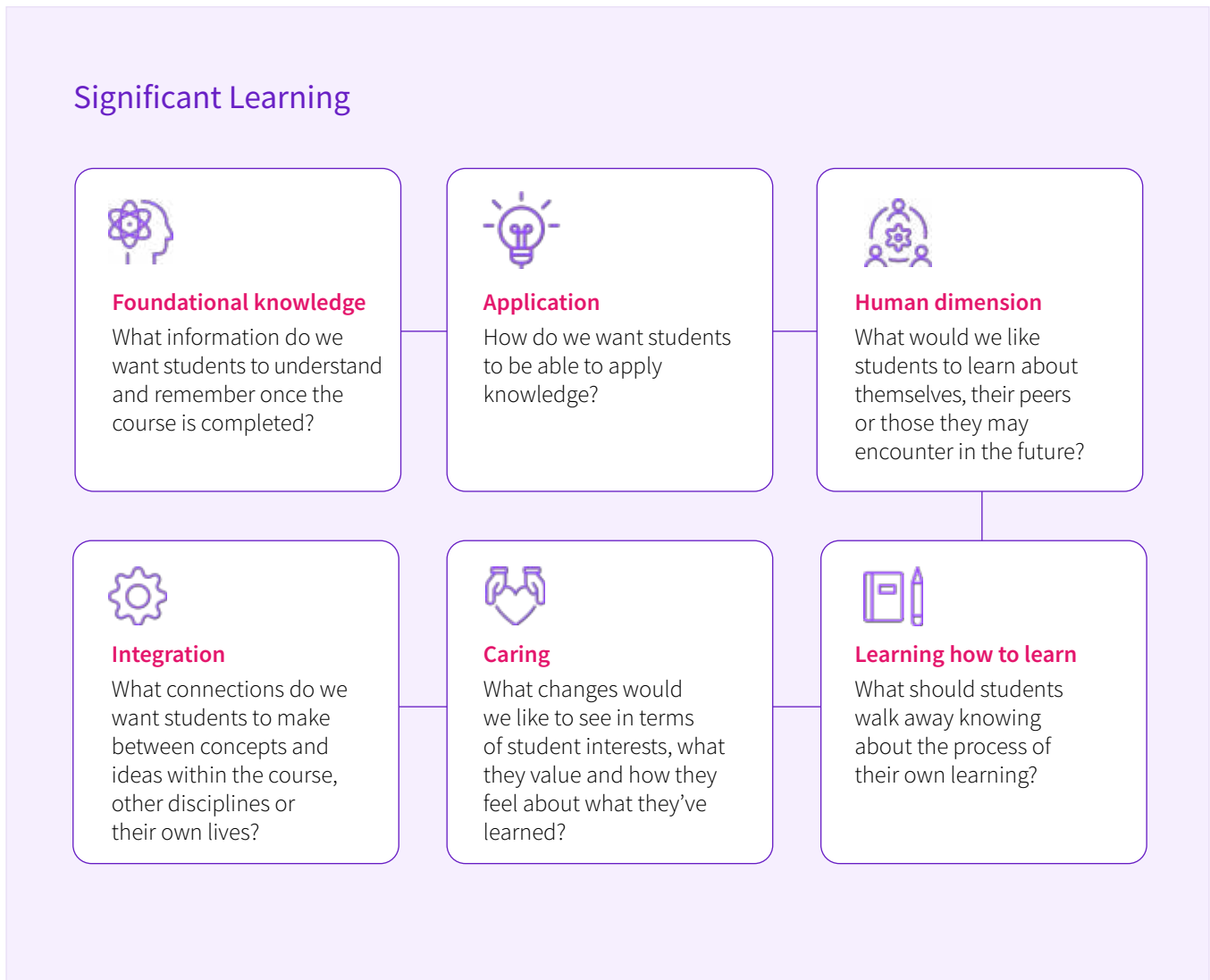What do I want students to remember two-to-three years after the course has finished?

What would distinguish students who take my course from those who have not?

How will I inspire them to continue to learn and explore in the future?

Planning for Significance: Asking the Right Questions

Let's use Fink's model to explore the questions we should ask at each step of the design process.

Significant Learning

Foundational knowledge
What information do we want students to understand and remember once the course is completed?

Application
How do we want students to be able to apply knowledge?

Human dimension
What would we like students to learn about themselves, their peers or those they may encounter in the future?

Integration
What connections do we want students to make between concepts and ideas within the course, other disciplines or their own lives?

Caring
What changes would we like to see in terms of student interests, what they value and how they feel about what they've learned?

Learning how to learn
What should students walk away knowing about the process of their own learning?

"Rich Learning Experiences"

According to Fink, rich learning experiences allow students to achieve several types "of significant learning simultaneously." Simulation exercises, role-playing, case studies and capstone projects provide opportunities for students to pose questions, investigate and experiment, solve problems and construct meaning. Other examples include field trips and authentic projects that challenge students to apply learning to solve 'real world' problems.

Case Study:
A Learning Experience Students Will Remember

In the first few weeks of professor Demian Hommels' course on Geographies of Risk, students learn different models that assess the progression of vulnerability that can lead to differential impacts from disasters. He then asks students to build on these models by creating and communicating their own infographic. Things get interesting when he challenges students to apply their models against different scenarios. Did it work as anticipated? How could their model be made more effective? Hommel's goal isn't just to impart various ways to assess risk. It's about creating a rich (and memorable) learning experience for students.

Professor
Demian Hommel
Oregon State University

In-Depth Reflection

Giving students opportunities for reflection is a central component of significant learning. Reflective writing, minute papers, and journaling are powerful tools in challenging students to explore what and how they are learning, its connection to other coursework, its value in terms of their own interests and aspirations and, importantly, what else they feel they need to learn.

Make Assessments More Meaningful

Top Hat's easy-to-build assessments make for easy-to-see progress.

- Enable students to show their learning through a variety of formative and summative assessments

- Bring assignments to life with multimedia and interactive questions

- Customize grading to capture participation and correctness and easily sync grades with your LMS

Parting Thoughts

Be prepared to adapt as your course unfolds. Dee Fink also counsels us to think incrementally. Start by making a few changes. Learn, revise, and continue to iterate. Rome wasn't built in a day, and neither is transformational learning.
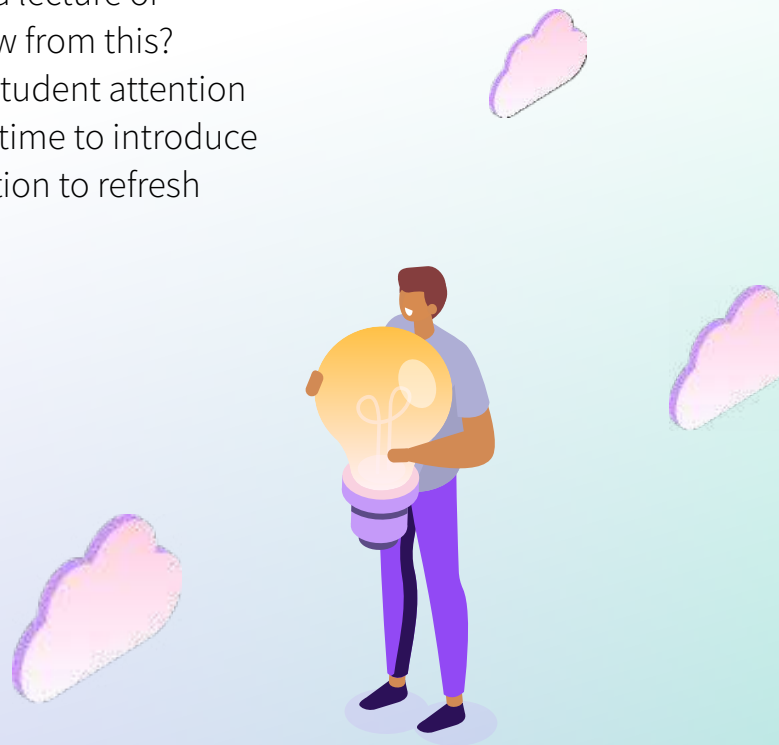
3. Cultivating Attention

Michelle Miller, author of *Minds Online: Teaching Effectively with Technology*, asks us to "think of ourselves as stewards of students' limited stores of attention." At the core, this is about recognizing that attention is something we need to cultivate deliberately.

Thinking Like a Playwright

James Lang, author of *Distracted: Why Students Can't Focus and What You Can Do About It*, points to playwrights as masters of structure. At the beginning of a play, something happens that is designed to get you engrossed in the story. There are acts, scenes and an intermission. The action rises and falls. All of these elements are used to hold our attention.

How we structure our time is vital. Reflect on the time you spend with students. Are there moments when they are more attentive? Is there a pattern you can see within a lecture or across the semester? What lessons can you draw from this? As a rule, change helps renew attention. Since student attention typically wanes after 15 minutes , this is a good time to introduce a learning activity, discussion, or time for reflection to refresh students before moving ahead.

4 Tips on Cultivating Attention

James Lang offers these [suggestions](#) to help us cultivate attention more deliberately and effectively in our classrooms.

1 **Cultivate community**

Be attentive to the community in the classroom, and encourage students to be more attentive to one another.

2 **Engage students in expectation setting**

Invite students into the conversation. What helps them stay focused? What can be done differently? Formalize the output and provide frequent reminders.

3 **Plan deliberately**

If you're teaching a difficult concept, alternate your content with something that's going to give students a mental break. The key is to structure activities in ways that will keep students focused.

4 **Think beyond individual classes**

Attention waxes and wanes throughout the semester. This might be the ideal time to do the unexpected. An outing, or bringing in a guest speaker, may help to re-energize students for the final push.

Engage Students with [Top Hat](#)

Get students to lean into learning.

Create polls and quizzes that help students practice applying knowledge

Choose from 14 different question types students can respond to on any device

Use Top Hat Pages to create media-rich assignments to make learning active outside the classroom

4. Inclusive Teaching

Intentional course design is the foundation for equitable and inclusive learning. As professors <u>Viji Sathy and Kelly Hogan</u> argue, inclusive teaching is a mindset, and "the more structure, the better for all students." That means thinking deliberately about how we cultivate belonging, and how we engage, interact with, and assess in a way that ensures all students are set up for success.
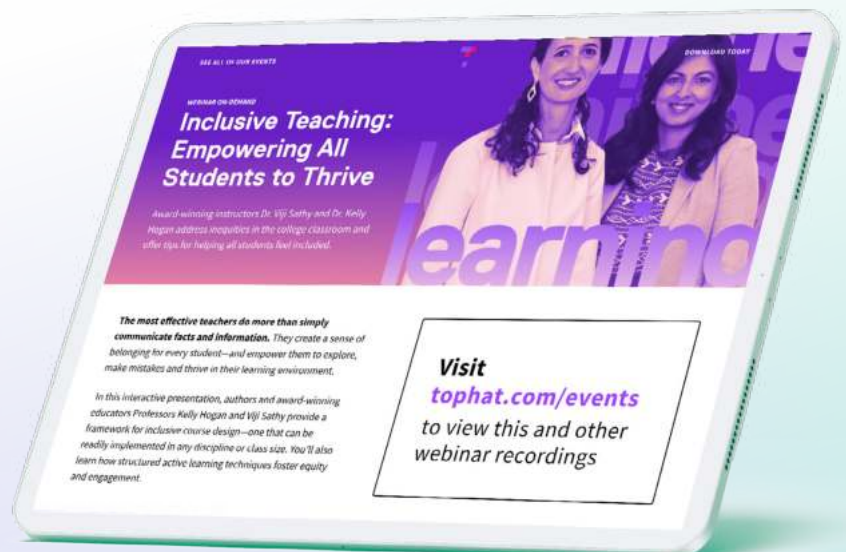
5 Ways to Add Structure to Your Course

More structure works better for most students. And more structure won't harm those who don't actually need it! Here are some ways Sathy and Hogan suggest we can use structure to create a more equitable and inclusive learning environment.

1 **Don't make your course design a mystery**

At the start of the semester or before introducing a new unit, communicate the learning objectives, how you've structured your lessons, and how you will assess students.

2 **Ask yourself, "Who may be left out as a result of this approach?"**

In planning a discussion, are there students who are less likely to participate? Give them a few minutes to capture their thoughts in writing before responding or use a discussion tool that allows students to respond anonymously.

3 **Group work and collaborative learning**

Avoid students being left out by assigning groups and creating roles within the group (scribe, speaker, etc.) so everyone has a purpose.

4 **Intersperse learning activities**

Incorporating different activities like writing, discussions, quizzes, and problem solving activities ensures students are able to play to their strengths and practice applying knowledge.

5 **Make learning accessible**

Accessibility should be a guiding principle in course design. There are many considerations here, but a great place to start is with Universal Design for Learning, a framework that guides course design with the goal of benefitting all students.

Case Study:
Belonging Through Representation

Incorporating examples, stories, and overlooked thinkers in your course materials can send a strong message of inclusivity to students.

Promoting the contributions of women and minorities within chemistry is something professor Jennifer Donovan took to heart in using Top Hat to create a custom textbook for her introductory chemistry course. You'll find references to Rosalind Franklin, whose work was central to understanding the molecular structure of DNA, and Charles Richard Drew, an African-American chemist whose research helped save countless lives by increasing yields for donated blood. Donovan also incorporates videos exploring the gender gap in STEM fields to highlight the issues and opportunities facing women.

Professor
Jennifer Donovan
Arizona State
University

Equitable Assessment

Jesse Stommel, author of *An Urgency of Teachers*, argues that effective course design means designing "for the least privileged, most marginalized students … and imagining new ways forward for students already struggling, already facing exclusion." One of the most important places we can effect change is with our assessment practices.

7 Tips for Initiating Change

The Center for Educational Innovation at the University of Minnesota offers a few simple things we can do to move the needle toward more equitable learning.

- Ensure materials are accessible

- Use different types of assessments

- Provide reasonable accommodations and deadline expectations

- Use clear language that is understood by all

- Provide different options for students to demonstrate their learning

- Be clear about what you expect of students

- Get input from your Center for Teaching and Learning to ensure clarity and identify potential biases

Assessing Early and Often

A [report](#) by Harvard researchers showed that interspersing online lectures with regular testing helped students focus more effectively. Note taking increased and students retained information longer. Students were also less anxious knowing that a poor showing on one test would not have a major impact on their final grade.

Regular low stakes testing creates opportunities for students to learn from their mistakes, and develop the growth mindset so important for success in higher education and beyond.
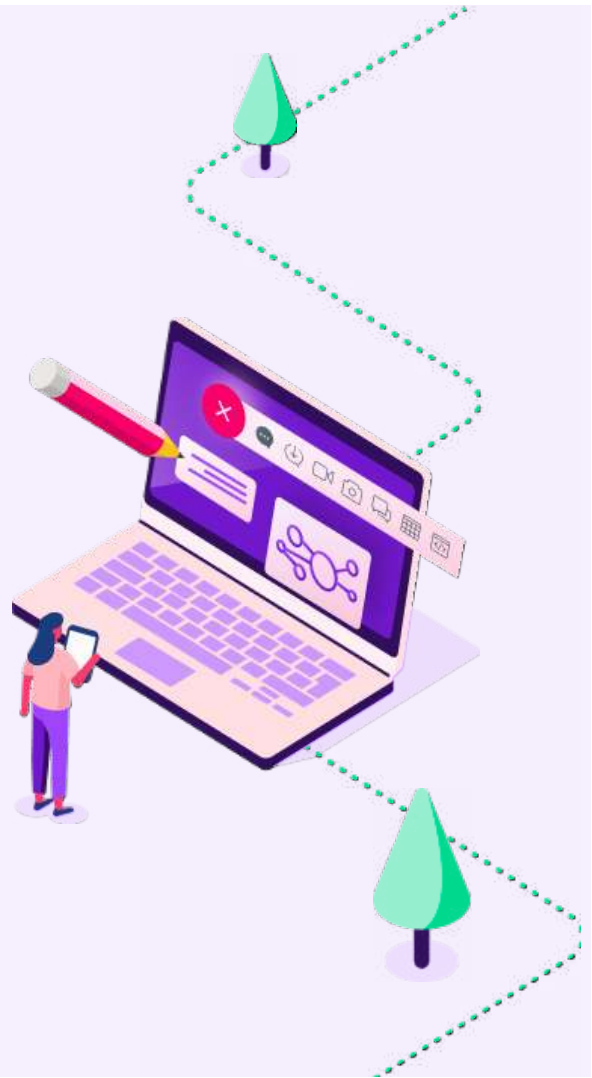
Transparency

The Center for Educational Innovation at the [University of Minnesota](#) suggests that when designing an assessment we should take time to help students answer the following:

What must students be able to do on the assessment?

This helps students prepare efficiently and in alignment with the learning objectives you've set.

How does the assessment support their learning?

Connect the assessment to progress within the course and how it will benefit their academic journey and success outside of school.

How should they complete the assessment?

Make a point of discussing the format, timing, and any logistical considerations.

3 Ways to Make Assessments More Engaging

There are steps you can take to use assessments to engage students more deeply in the learning process.

1 Know your students

Use a survey to capture insights into student backgrounds and interests to help create richer, more meaningful assessments.

2 Reflect student diversity

Choose examples, authors, questions, and imagery that will allow students to see their own communities reflected in the learning process.

3 Offer choice

Give students agency over the topics, and methods used to demonstrate their learning to motivate and increase accountability.

Case Study:
Democratic Course Management

What happens when we give students more control over how they are assessed and how their grades are weighted? This is the [question](#) professors John Redden and Luke Green explore in their work on democratic course management. While students are required to participate in all assessment and assignment activities, they are allowed to adjust the weightings for each activity within a certain range, in some cases almost to zero. Giving students agency to influence grading policies and assessments has dramatically reduced DFW rates, especially for at-risk students, while improving overall engagement and the sense of community in the classroom.

Professor
John Redden
University of
Connecticut

Equitable, Inclusive Learning with [Top Hat](#)

Deliver dynamic learning that reflects your learning community.

Top Hat Pages makes it easy to create readings and assignments that mirror the diversity of your students

Easily create polls and surveys to understand student needs, interests and lived experience

Give every student a voice by allowing them to respond to discussions anonymously

5. Evidence-Informed Iteration

Healthcare professionals are required to demonstrate a clear commitment to evidence-based practice. Bad outcomes are mined for insight and shared widely to drive improvement. While this level of rigor has yet to find its way into most classrooms, there are many opportunities to apply the spirit of investigation to continuously improve our teaching practices.
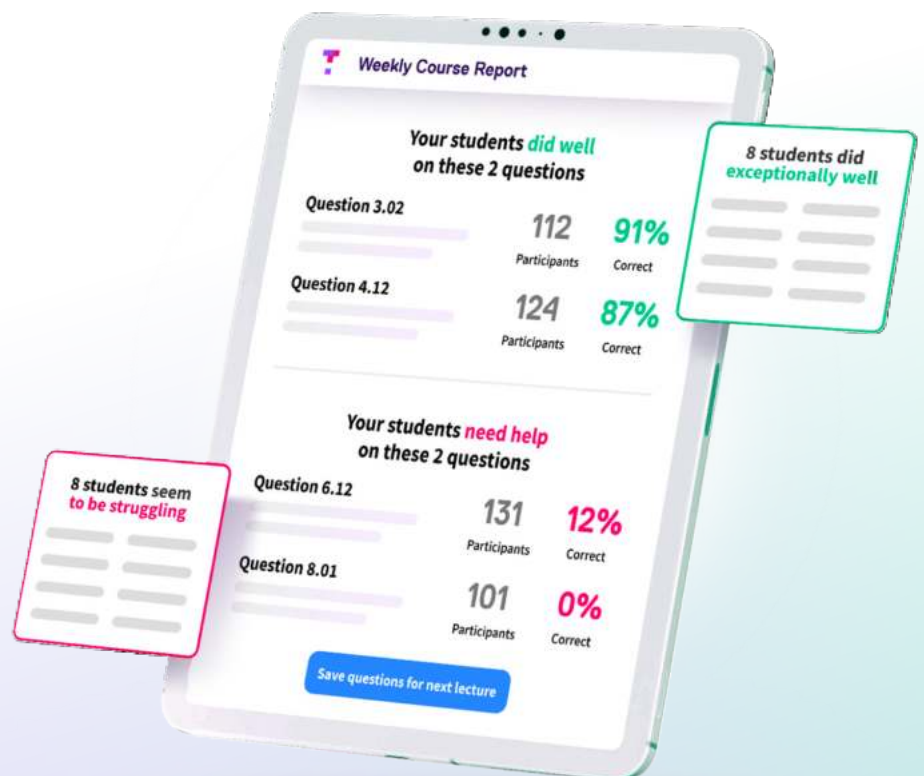
Making Use of 'Small Data'

The use of 'small data,' gathered by establishing frequent touchpoints to assess learning, is a powerful way to shape the student experience. Digital teaching and learning tools like Top Hat are making this far easier to do efficiently and at scale. You can capture small data in a variety of ways, including:

- Quizzes
- Polls
- Pulse checks
- Student surveys
- Discussion responses
- Peer review
- Reading completion
- Attendance and participation
- Formative assessments
- Minute papers
- Exit or Entry tickets
- Think-Pair-Share exercises

Case Study:
Identifying and Supporting Disengaged Students

Researchers at Charles Sturt University in Australia found that the most common failing grade is a 'zero fail' grade, usually given to students who have not submitted any assessment-related items. Receiving a grade like this in the early weeks of study is strongly correlated with student attrition. Using learning analytics to predict patterns of student engagement has allowed the school to improve retention by providing targeted support much earlier in the learning journey.

5 Ways to Improve Learning at Scale

Educational technology platforms like Top Hat are making it easier to automatically collect and analyze data, to do the following (and more).

1 Identify student needs

Using data to track performance makes it easier to identify areas where a class or individual students may need more practice.

2 Personalize learning

Using polls and class surveys to understand student backgrounds, prior knowledge, and areas of interest provide insights to tailor the learning experience.

3 Measure progress

Tracking engagement, participation and assessment data allows instructors to adjust their teaching practices to ensure students are making steady progress.

4 Provide feedback

Frequent low stakes assessments provide more opportunities to help students understand their strengths and weaknesses.

5 Improve collaboration

Data-driven insights make it easier for educators to identify best practices, develop new teaching strategies, and work together to improve student learning.

A Framework for Evidence-Informed Iteration

There are a variety of ways to measure the impact of our teaching practices. The key here is to establish baseline measures to ensure you are able to evaluate the impact of adjustments you've made to your course design.

Challenge	Tactics	Measures
Attendance	• Prioritize in-class activities so students can practice applying information • Devote 15 minutes before class starts to provide informal tutoring • Award points for attendance	Attendance rate change
Class engagement	• Break up lectures with reflection prompts, think-pair-share activities, minute papers, or low stakes assessments • Assign students to teams to work on challenges and report out results • Implement simulation or gamification strategies • Leverage a backchannel for discussion and lecture-related questions	Attendance rate Student surveys Participation rates (polls, discussions, quizzes) Homework/reading completion Exam performance
Exam performance	• Ensure frequent low stakes assessments mirror challenges students will confront on exams • Offer retakes (especially important for reducing stereotype threat) • Provide sample exams and discuss in class	Exam grades
Community and belonging	• Prioritize class time for engagement between students, and with you • Create teams and use scaffolded activities to help students develop affinity with their team • Ensure course materials reflect the diversity of your students • Learn student names, and communicate a commitment to student wellbeing	The Sense of Community Index (SCI) survey uses quantitative measures and is considered a valid measurement instrument
Student retention	• Use early assessments to identify struggling students • Focus on readiness and scaffold students into success • Build community and a sense of belonging early in the course • Partner closely with student success and CTL staff	DFW rates
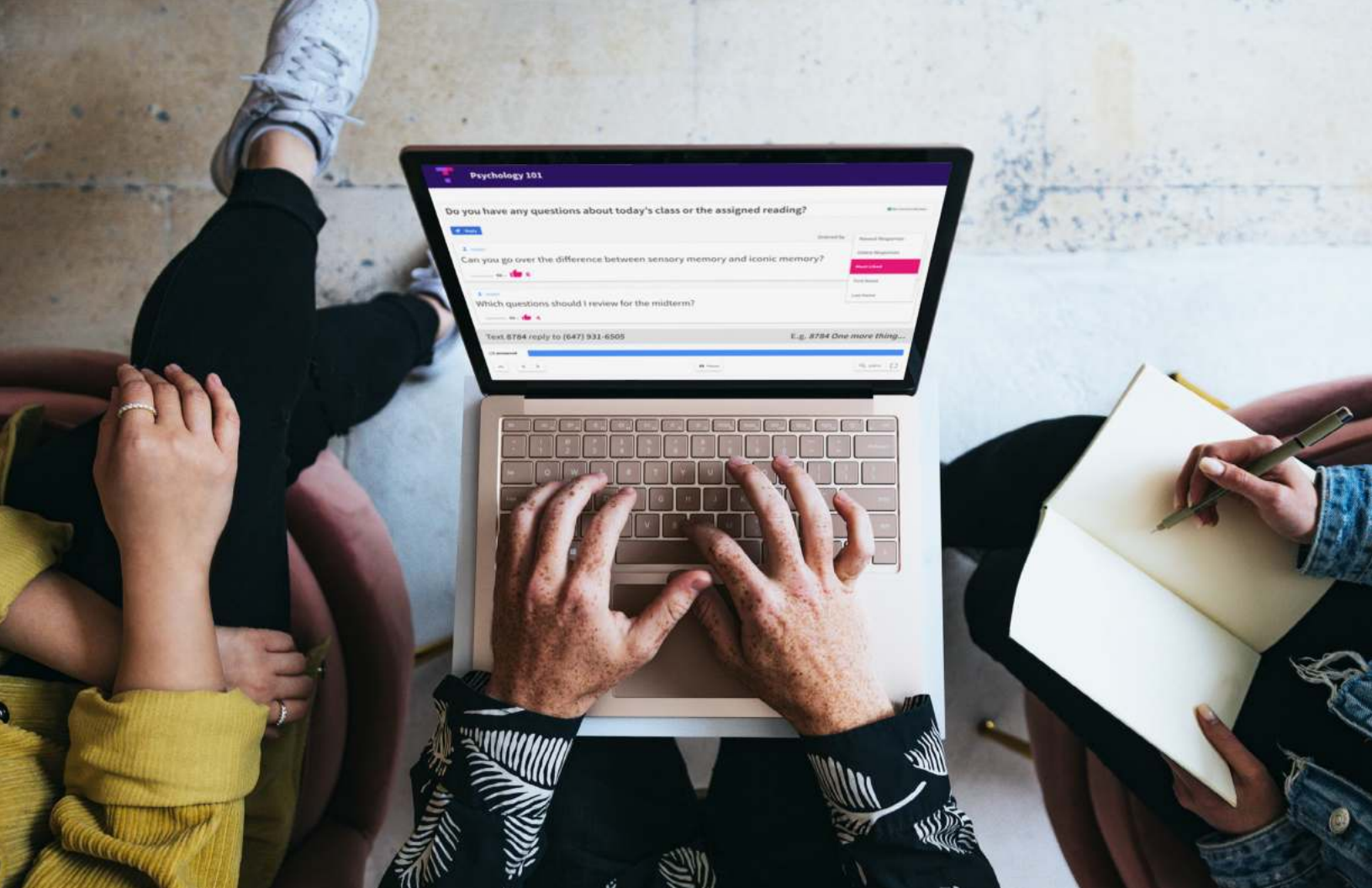
Insights to Power Student Success

Use [Top Hat](#) to understand what's working and which students need extra help.

Polls, quizzes and discussions allow you to gauge student progress in real time

Use the Top Hat gradebook to view engagement and performance at a class and individual level

Get the Weekly Course Report for at-a-glance insights into class-wide trends

Parting Thoughts

With pressure growing to improve academic performance and completion rates, waiting for exam results is usually too little, too late. The good news is that adapting to student needs and improving learning outcomes doesn't mean having to revamp your entire course. The most important part is the willingness to experiment, test and experiment again. It's this evidence-informed iteration that will create learning environments that better support student needs, enabling all boats to rise with the tide.

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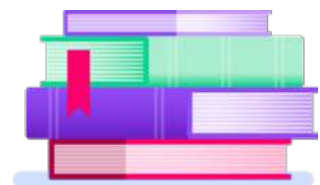
TOP HAT

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As the leader in student engagement solutions for higher education, Top Hat enables educators to employ proven student-centered teaching practices through interactive content, tools, and activities in in-person, online and hybrid classroom environments.

To accelerate student impact and return on investment, the company provides a range of change management services, including faculty training and instructional design support, integration and data management services, and digital content customization.

Thousands of faculty at 750 leading North American colleges and universities use Top Hat to create meaningful, engaging and accessible learning experiences for students before, during, and after class.