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Learning Catalytics™ Implementation Guide

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MODULE 1: WHAT IS LEARNING CATALYTICS (LC)?

Learning Catalytics is an interactive classroom tool that allows every student to participate. Instructors ask a variety of questions that help students recall ideas, apply concepts, and develop critical thinking skills. Students answer using their smartphones, tablets, or laptops to show that they do—or don't—understand. Instructors monitor responses to adjust their teaching approach, and even set up peer-to-peer learning. More importantly, they use real-time analytics to address student misconceptions the moment they occur and ensure they hear from EVERY student when it matters most.

Contact your Rep to learn how you can use Learning Catalytics in your course.

Features and Benefits

- **Engage students with open-ended questions to develop critical thinking skills**
 - Use various types of questions with Learning Catalytics such as region, sketch, ranking, word cloud, priority, many choice, short answer, data collection, direction, confidence, composite sketch, multiple-choice, long answer, and so on, to pose questions to student in the most natural way possible.
- **Get students working together**
 - Automatically group students for discussion of a question based on their responses and location, regardless of class size.
- **Build teamwork and collaboration skills for all students**
 - Provide students with the structure to come up with a team consensus answer by engaging in discussion, articulating arguments, and resolving differences.

- **Engage your students in person or online, in a flipped or traditional classroom**
 - Augment a traditional lecture, drive active learning in a flipped classroom, or bring the benefits of in-person interactions to completely asynchronous online courses.
- **Identify misconceptions and monitor responses to find out where students are struggling**
 - Use any device to keep track of how students are progressing in real time without being tethered to the podium.
- **Fully integrated with Mastering and select MyLabs**
 - Your students access Learning Catalytics at no cost when they purchase a Mastering or selected MyLab product with an eText subscription.
 - After students cross-over once from their Mastering or select MyLab course, they will have single sign-on access to Learning Catalytics.
 - Take advantage of Pearson content built specifically for Learning Catalytics.
 - Use gradebook integration with a Mastering or selected MyLab product.

Response Types and How Educators Use Them

In Learning Catalytics, questions are grouped into modules; each module may correspond to a single period of instruction on a single day, or a single set of questions that might be grouped into an activity.

There are five module response types available which define the ways in which students respond to questions in a module. You select the response type when you create a new module.



Video: [Select a Response Type](#)

How do educators use the five module response types?

Instructor-Led Synchronous

How is this response type typically used?

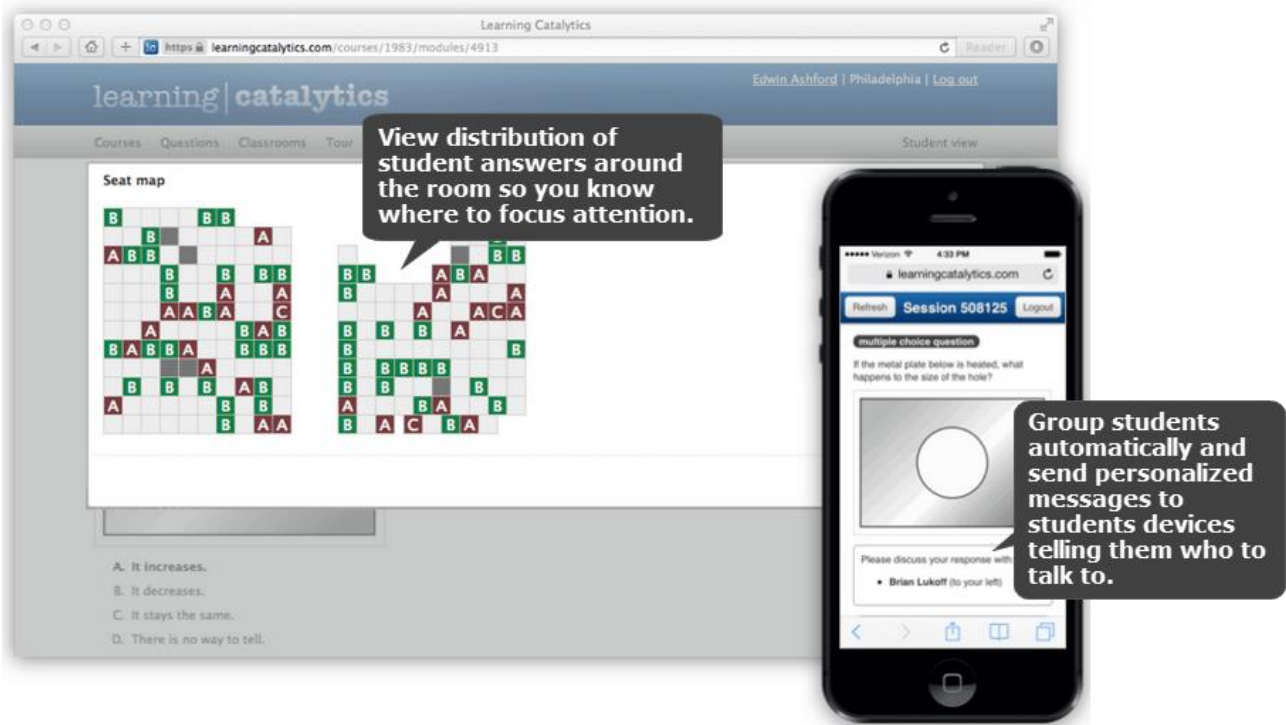
- This response type works best when all of the students are in the same classroom together. Benefits include real time feedback on student understanding as well as the option to automatically group students for [peer instruction](#) and discussion based on their responses.
- It also works well for synchronous online courses. Note that all students and the instructor must be online at the same time. Since online course students tend to sign in whenever, a different response type such as Automated Synchronous, Self-Test, or Self-Paced may work better for online courses.

How does it work?

This is the "classic" response type that has always been available in Learning Catalytics, and emulates the way you would use clickers or other response systems. Students are presented with questions one at a time, and they all respond to that question during the same time period.

Instructors view the student responses in real time which enables them to get into the minds of their students to understand what they do or don't know and allow for just-in-time teaching adjustments.

It encourages [peer instruction](#) and active engagement in class. A seating map identifies students and groups them based on the instructors' criteria for further problem solving and discussion. This makes for an engaging classroom experience and gives instructors an unprecedented view of class performance.



A seat map is not required to use this response type. Some educators run sessions without worrying about seating. If you use a seat map, you have the option to group students automatically based on their responses. Automatic grouping is based on your selections. Alternatively, you can informally ask them to talk to each other and deliver the question a second time.

All of the answer data is stored in the cloud and aggregated automatically to allow the instructor to easily gain insights both during and after class, whether about the whole class or individual students.

Automated Synchronous

How and when might you want to use this response type?

- This response type is designed to deliver the benefits of peer discussion to students in online or hybrid courses.
- Another use may be to use it for face-to-face students for snow days.

How does it work?

With the Automated Synchronous response type, students respond individually to questions as they are delivered one at a time in an automated format, typically out of class at a set time when an instructor is not present.

By default, the first question will start after 5 minutes to give students time to log on. Instructors can edit the amount of time students have to join the session before the first question is delivered.

There is auto timing and auto pacing throughout the module. Students are presented with a countdown timer to help them know how much time they have left to enter their response.

If between 30-70% of students have responded with the correct answer, then they are grouped for discussion. During discussion students have a text chat to discuss their responses before entering their second response. With this response type, the instructor specifies a window of time for the module to be available.

Self-Paced

How and when might you want to use this response type?

- Homework outside of class (where for example you want them to do it in a certain window like a pre-lecture assignment, but not allow them to see answers/feedback so you can cover the most difficult questions the following lecture).
- If you have a snow day, you can copy the Instructor-Led Synchronous module you planned to deliver that day and assign it as a Self-Paced module.

- In class quizzes (when you don't want to group students or allow them to see answers/feedback).

How does it work?

In this response type, students have access to the full set of questions when they begin, and can answer them at their own pace and in any order. This can be used in class for quizzes or worksheets. The instructor can also specify a window of time for the module to be available, so it also works well outside of the classroom (e.g., for a homework assignment).

For in-class quizzes, instructors can view student responses to automatically scored questions on the seat map if their Learning Catalytics course is associated with a seat map to gauge how well students have understood the material.

Instructors can set a Start at and End at time. For an in-class quiz, this would be the time when the questions are no longer available to students. Thus, the Start at and End at values can serve as a start and stop timer for all students at once. Outside of class, these values should span a longer, more flexible period (1 or more days, perhaps) during which students can work at a time that suits them, but must finish by a deadline. This deadline isn't visible to students, so instructors should tell them about it.

Both in class and outside of class, students can access and change their responses at any time up until the session is stopped—either manually, when the instructor clicks the Stop Session button, or automatically, based on the End at value.

Students do not see answers/feedback during the session. If instructors want students to review responses and correct answers, they can allow students to review the module after the session has ended.

Self-Test

How and when might you want to use this modality?

- Online homework or practice tests where you want students to see answers/feedback immediately.

- You can clone another module response type such as an Instructor-Led Synchronous Module or Team-Based Assessment so students can practice outside of class with immediate feedback.
- Use Self-Test in class as a way to differentiate instruction. For example: When teaching a particular topic where students would find themselves at much different skill levels (some students still needing much practice on the basics and others deathly bored by the basics right away and in need of much more of a challenges), then create a Self-Test module with questions of increasing difficulty, and open it up to students. Tell them that the easy questions are at the front, harder questions at the end, and tell them they can start anywhere they choose. Then the instructor view reflects real-time performance so you can see both what problems students are attempting and what the common errors are on each one. Also students are working independently so you have time to walk around and help students individually as needed.
- Self-Test, unlike Self-Paced, allows students to receive feedback as they submit answers to each question. Further, this option allows the instructor the option of permitting students to answer questions as many times as they wish. Only the last response will be recorded.

How does it work?

This response type is identical to Self-Paced, except that students will receive right/wrong feedback on their response immediately after submitting it. Students will also have the opportunity to read the answer explanation after responding to a question. Like Self-Paced, instructors can set a Start at and End at time for a session.

Team-Based Assessment

How and when might you want to use this modality?

- To achieve team-based assessment where students first work individually and then work in a team (self-selected or permanent) for the second round. If you deliver the Individual Round in class, the environment will be similar to a quizzing or testing setting, as students will be quietly working on their own.

For the Team Round, you can designate the number of attempts as well as the value of each attempt on a module-by-module basis.

- Practice exam for students in class. Students work individually first and then in a team.
- Have students do the questions in the individual round from home and have them come in to class to work on the team round. This will allow students to engage in discussion with each other about problems they may have encountered in the individual round. If you use this method, permanent teams are suggested. If you use temporary teams, students are prompted to join their teams before you can begin the Individual Round. Temporary team formation works best if students are already in class together.

How does it work?

The Team-Based Assessment response type is modeled on the "[In-class Readiness Assurance Testing](#)" from Team-Based Learning™ Collaborative. Selecting Team-Based will allow students to respond individually to all of the questions in a given module in any order. They will then gather into their team and respond as a team to the same questions. Before delivering a module, the instructor will select the settings that will be applied to the grading of the module.

In a team-based assessment, students are assembled into teams in one of two ways:

- The instructor can create permanent teams for the course using the Teams button. (The Team-Based Learning Collaborative has some advice on how to form teams in this [video](#) titled Team-Based Learning: Group Work that Works.)
- Students can form teams in a less formal way, and then can be prompted to enter a "team name" when they join the class session. (For example, if you have students sitting at tables, they could enter their table number as their team name.)

In the team-based response format, students will be able to begin the individual round and answer all questions in the module once the instructor begins the

session. When the instructor is ready to transition to the team round, the instructor will select **Begin team round**.

As students work in teams, they agree upon one response to submit for the team. To assist that process, they have access to all the responses their team members submitted during the Individual Round. Any student can click **Show my team's responses**.

 [Show my team's responses](#)

When a team member submits the team's answers, all team members see answer feedback. If you have enabled multiple attempts in the module settings, the team can submit another answer (generally for fewer points). A different person can submit the next response, but teams need to remember to coordinate their input because each response to the same question is considered to be another attempt.

The number of attempts allowed by the team will have been set by the instructor when the team based response was selected for the module. The instructor can designate the number of attempts as well as the value of each attempt on a module-by-module basis.

The final score for each student completing a Team-Based module depends on the weighting of the scores of the individual vs. team based. The default final score is calculated as 50% individual score/50% team score. An instructor can modify this to meet their needs by sliding the selector to the left (increasing the value of the individual score) or the right (increasing the value of the team score).

"The part of the program that has really blown me away is the Team-Based Assessment. I made a practice exam for students consisting of 12 questions and the students worked individually for about 15 minutes and then in a team for about 10 minutes. (I pulled many questions from the question bank, from Georgia Tech's Jung Choi.) The classroom was buzzing with noise during the team component, and the students hardly needed any direction from me about what a team-based assessment entailed. Students enjoyed it, and it was thrilling for me to see how students were answering my exam questions in real time! By examining the real-time display, I knew which questions I would want to spend time discussing in the 10 minutes I had at the end of class...In fact, the students made gains on every question as a group compared to individual answers."

- Submitted by Kelly Hogan, Senior Lecturer & Advisor, Biology Department, University of North Carolina

Response Type Comparison Grid

Response Type	Students answer questions	You start & stop the session
Instructor-Led Synchronous	<ul style="list-style-type: none"> • Individually, during class • In the order you deliver them during class (in a physical or virtual classroom) • May be asked to discuss first-round answers with a group, and then answer again individually in a second round. 	<ul style="list-style-type: none"> • Manually in real time • May redeliver any question in another round in the same session • May display all responses • May reveal the correct response, if any, or hide correct response from students
Automated Synchronous	<ul style="list-style-type: none"> • Individually, during an automated online session that you schedule • In the order they are listed in the module • May be asked to discuss first-round answers in an automatically generated chat session with a group, and then answer again individually in a second round. 	<ul style="list-style-type: none"> • Schedule one or more start times to give students a choice of when to participate • Learning Catalytics monitors response time and correctness to determine whether to generate group chat sessions for peer instruction, when to deliver the next question, and when to end the session.
Self-Paced	<ul style="list-style-type: none"> • Individually, typically outside of class • In any order 	<ul style="list-style-type: none"> • Manually or by scheduling

Response Type	Students answer questions	You start & stop the session
Self-Test	<ul style="list-style-type: none"> • Individually, typically outside of class • In any order • Receive feedback for all responses 	<ul style="list-style-type: none"> • Manually or by scheduling
Team-Based Assessment	<ul style="list-style-type: none"> • Individually, either before or during class • In any order • Again as a team during class • During the team round, students must come to a consensus response to each question, which counts for the entire team 	<ul style="list-style-type: none"> • Manually, including starting the Individual and Team rounds

User Stories and Case Studies

Research shows that instant or immediate feedback is essential to student learning, and LC affords professors the opportunity to adjust their teaching through the immediate in-class feedback LC provides. Among its most powerful capabilities is LC's role as a "feedback engine" that enables "two-way learning" without freezing or disrupting the flow of a class.

Instructors can pose questions throughout the class to assess how well the students understand a concept and whether there are questions or confusion. Equipped with this information, instructors can adjust their teaching in real time and dive more deeply into areas of common misunderstanding. The wide variety of open-ended question types in Learning Catalytics enables instructors to gather rich feedback on what students really know and can do, well beyond what is possible with traditional multiple-choice questions.

LC also helps students learn by enabling and facilitating peer instruction. LC dynamically and intelligently groups students to generate productive groups for problem solving and conceptual discussion. The group discussions that follow require students to reflect on and articulate their reasoning to a peer (or peers), increasing interaction and understanding.

To learn about how instructors have used Learning Catalytics to improve teaching and learning, refer to the [user stories](#) on the Learning Catalytics website.

For more detailed Learning Catalytics educator studies, click one of the links below to learn more about the study including key findings, setting, course details, challenges, implementation, and results and data:

[Amanda Fenner, University of Hawaii at Manoa, Honolulu, HI, Chemistry](#)

Key Findings:

- Data indicate there was a strong positive correlation between the MasteringChemistry average scores and exam averages in Preparation for Chemistry.
- Data indicate there was a strong positive correlation between performance in Preparation for Chemistry and General Chemistry I.

- Students who averaged 70 percent or higher on General Chemistry I exams and had taken Prep Chem during the period of this study had earned higher Prep Chem Mastering and exam averages than students scoring below 70 percent on General Chemistry I exams.
- The instructor recommended using Mastering diagnostics to track student performance and identify areas of misconception to review in class or with additional homework.

[Karen Hallows, University of Maryland, College Park, MD, Finance](#)

Key Findings:

- Data indicate a strong positive correlation exists between average MyFinanceLab quiz scores and both average MyFinanceLab homework scores and average Learning Catalytics scores.
- In addition, students who showed content mastery by earning an A, B, or C average quiz grade earned Learning Catalytics scores 30 percent higher than students who earned a D or F average quiz grade.
- Students who completed an optional Knewton Adaptive Study Plan with more than the average number of points earned average exam grades 11 percent higher than students who earned fewer points in the Study Plan.

Pricing

Learning Catalytics is available with many of the MyLab and Mastering Products. Please consult with your Pearson Sales Representative to learn more about availability and pricing information.

To find your Pearson Sales representative, please click [here](#).

The Question Library: Pearson and Community Content

Many courses will have questions created by Pearson specifically for LC. In addition, professors can draw upon community content shared by colleagues. Instructors can rate, comment on, and improve upon questions written by other instructors to continuously improve question quality. And, LC's simple authoring tool enables instructors to easily and quickly author their own questions if they so choose.

Question Formats Available

LC offers instructors the opportunity to create a diverse range of open-ended, constructed-response questions, including graphical, textual, symbolic and numerical answer types. There are currently 19 different question types available, including a slide "question type" that enables instructors to push static content to student devices or upload a PowerPoint Presentation for display during a session. Formats include: composite sketch, confidence, data collection, direction, expression, highlighting, image upload, long answer, many choice, matching, multiple choice, numerical, priority, ranking, region, short answer, sketch, slide, and word cloud.

The ability for LC to manage responses to open-ended questions is particularly effective when it comes to analyzing critical thinking skills. See detailed descriptions of the [question formats](#).

LC Integration with MyLab and Mastering

Mastering, Modified Mastering, and select MyLabs are now integrated with Learning Catalytics. You can access this new integration through the new Learning Catalytics link within the Mastering or MyLab course. Mastering and MyLab courses for math, statistics, and business are fully integrated with Learning Catalytics. There are also MyLabs courses in English, student success, criminal justice,

When you use the full integration and link out to Learning Catalytics, you also create a course in Learning Catalytics that automatically syncs with your Mastering

or MyLab course. You can also optionally have Learning Catalytics send student scores back to the Mastering or MyLab Gradebook.

Select humanities and social science courses have the ability for single sign-on, but are not fully integrated to allow for grade transfer.

Please see the guides below to find out more about the different integrations. Note that it is especially important to refer to the guides below so you understand how you and your students set up and access Learning Catalytics within your Mastering or MyLab course.

Product	Product-specific Information
Learning Catalytics Standalone	Quick Start Guide: Learning Catalytics Documentation
Learning Catalytics fully integrated: Mastering Modified Mastering	Quick Start Guide: Learning Catalytics for Mastering and Modified Mastering Documentation
Learning Catalytics fully integrated: MyMathLab MyStatLab	Quick Start Guide: Learning Catalytics for MyMathLab & MyStatLab Documentation
Learning Catalytics fully integrated: MyAccountingLab MyBCommLab MyBizLab MyBusinessLawLab MyCJLab	Quick Start Guide: Learning Catalytics for Business and Criminal Justice MyLabs Documentation

MyEconLab MyEntrepreneurshipLab MyFinanceLab MyManagementLab MyMarketingLab MyMISLab MyOMLab	
Learning Catalytics fully integrated with: MyFoundationsLab MyLiteratureLab MyNursingLab MyReadingLab MySkillsLab MyStudentSuccessLab MyWritingLab	Documentation
Learning Catalytics integrated (single sign-on for select titles): MyAnthroLab MyArtsLab MyCommunicationLab MyHistoryLab MyPsychLab MySocLab	Quick Start Guide for select Humanities and Social Sciences Courses Documentation

MODULE 2: STRATEGIES FOR IMPLEMENTATION SUCCESS

After examining the most successful Learning Catalytics implementations, one thing is consistent: those schools that achieve success know precisely where they stand, they establish clear goals at the onset, and then specifically design their implementations to reach them.

The Learning Catalytics Planning Toolkit

To help you achieve success by walking you through the implementation process with worksheets and checklists, please refer to the [Learning Catalytics Planning Toolkit](#). The Planning Toolkit walks you through three phases of the implementation process: planning, implementation, and evaluation.

“Phase 1: Plan” is where you identify the problems you want to solve so that when it comes time to measure outcomes, you’ll know exactly how far you’ve come and what areas still need work. You’ll also decide which pieces and features of the course will best fit your unique configuration and support your stated goals.

“Phase 2: Implement” is where your plan takes shape and you explore the available resources to learn how to most effectively use them to integrate the product into your course. This is also where you will design your course to align with your desired outcomes. You may also customize resources to help students get started successfully.

“Phase 3: Evaluate” is where you consider how you will analyze student performance and predict future success. You will devise strategies for student intervention and student performance issues. Depending on what the data indicates during the term, you may decide to revise the course setup and configuration. This phase also includes how to analyze end-of-term data to correlate results with learner outcomes and course goals.

Ten Steps to a Successful Implementation

In the following graphic, look over the three phases (plan, implement, and evaluate) of successful implementation and the steps within each phase. Successful

implementation is a continuous process. It is suggested to follow the steps each term and evaluate your success at the end of the term to inform your course revisions for the next term.



Best Practices: Get Started with LC

Take a quick look through the checklist below for tips to support a successful Learning Catalytics in-class implementation based on feedback from current users. You should review the suggestions below **before** you use Learning Catalytics.

Note: These best practices apply to all Learning Catalytics users (Learning Catalytics standalone as well as Learning Catalytics integrated with a Mastering or MyLab course)

Check classroom connectivity

- If you decide to implement Learning Catalytics for in-class learning, check with your IT department on campus. You need capacity for all students to be online simultaneously via Wi-Fi or cell providers.
- Involve your campus administration (dean, chair, and so on) with your request for classroom connectivity. Campus administrators can be very helpful to get you the resources you need to incorporate active learning into your class.
- It is suggested to request Wi-Fi capacity for 3x the enrollment of your class because some students may bring multiple devices to class.

Consider student access to web-enabled devices

- If you are concerned about all students having a web-enabled device (smartphone, tablet, or laptop) in class, consider purchasing a few low-cost used devices to loan to students. Many institutions have successfully implemented a loaner strategy with six or fewer devices for 500-student enrollment courses.
- For a loaner strategy, look into grant opportunities on your campus. For example, many schools offer

mini-grants through the Center of Teaching Excellence or Teaching Development Departments.

- Consider exploring device loaner programs that may already be available through your institution's library.

Learn about student access to Learning Catalytics

- Communicate this information to your students early so they understand what they need to purchase for your course and how they access Learning Catalytics.
- Mastering and some MyLab products include access to Learning Catalytics from within a student's course. Be sure you share with them how to access Learning Catalytics from within their courses if you are using products with Learning Catalytics integration. Note that the process for students getting started is different for Learning Catalytics standalone and Learning Catalytics integrated with a Mastering or a MyLab course.

Identify how you will use Learning Catalytics to achieve learning goals

- Consider your learning goals and what you want students to get out of the material. Think about learning outcomes that students struggle with most and how you might use interactive learning to increase your students' conceptual understanding of those topics.
- Peer instruction helps students learn by encouraging them to articulate their thinking. The discussion process helps both the stronger and the weaker students. Research has shown that Peer Instruction yields significant gains in conceptual

understanding, problem solving skills and long-term retention.

- Work with the Pearson Results team to help analyze your data to compare learning outcomes before and after implementing Peer Instruction in your course. This is a great way to get buy-in from colleagues for teaching interactively. It can also be helpful for any future changes in your course design.

Consider how you will measure student learning gains

- Pair targeted activities with diagnostic assessment strategies. If you want to assess student gains, consider designing a module to assess student understanding of a process.
 - Create a module with a five or six question set of multiple choice and true/false questions that require a short-answer response explaining answer choice so you can determine reasoning type (i.e. informal, mixed, or principled scientific reasoning) as a pre-test. This should take about 15-20 minutes to complete. Questions should directly relate to the targeted active-learning exercises used in the lecture. Don't discuss the questions in class.
 - Consider asking these questions again at the end of the semester as a post-test. This will allow you to compare the pre- and posttest results to measure student gains. It can help you implement targeted active-learning activities in the future. Consider giving no points and encourage students to try their best. (April Cordero Maskiewicz, 2012 Spring)
- Consider asking questions in a pre-test in the beginning of the semester to get a baseline such as

prior knowledge assessment, conceptual inventory, and attitudinal survey. Consider using standardized conceptual inventories like the Force Concept Inventory, where available and appropriate. At the end of the semester or on an exam, ask them again.

- Consider conducting a student survey to learn more about your students' experience. A survey can provide you with helpful feedback on your Learning Catalytics implementation.

Identify good questions to ask

- Ask questions that address your students' misconceptions and reveal the kinds of uncertainties they might have about that material. For example, if you are writing a multiple-choice question, you'll want to include choices that students might think are correct. Learning Catalytics permits you to create free-response questions where you do not need to know students' misconceptions beforehand.
- Questions should challenge students appropriately by being neither too easy, nor too hard, that is, somewhere between 30 and 70 percent of the students should answer it correctly on their own, before discussion. (Lasry, 2008)
- Consider using various types of questions with Learning Catalytics such as region, sketch, ranking, word cloud, priority, many choice, short answer, data collection, direction, confidence, composite sketch, multiple-choice, and so on, to pose questions to students in the most natural way possible. This will help give you both more confidence in students' developed skills and a more precise understanding of students' misconceptions.

**Develop a plan for
how you will use
Learning Catalytics
that works for you**

- Decide how you will incorporate Learning Catalytics into your course assessment plan. For example, will you make Learning Catalytics worth 5 percent of the overall grade (such as a participation grade)? Are you planning on using Learning Catalytics for in-class quizzes or assessments? If you will incorporate Learning Catalytics use into students' grades, decide whether you will score responses based on participation, correctness, or both.
- If you are just starting out, consider incorporating Learning Catalytics once a week or every other lecture to give yourself time to move to the new format. Alternatively, consider only spending one-third or half your lecture time on Learning Catalytics activities.
- If you assign pre-lecture assignments in MyLab/Mastering, you don't have to cover everything in class. Demonstrate how you adjust your teaching in reaction to the pre-lecture assignments and students will be motivated to take the assignments seriously and will find class time more useful.
- Students should cover the easier aspects of the material outside of class and work in class along with the instructor on the more difficult content.
- Consider providing TAs or section instructors with access to Learning Catalytics so they can create a seat map, monitor responses during class, grade open-ended questions, and so on.

Explore the Learning Catalytics system and content

- Create modules, create questions, browse the question library (Pearson and/or Community content), and preview the student view. All of your work is saved in Learning Catalytics before you decide to deliver modules to your students.
- To save time when preparing for class, it is important to avoid “reinventing the wheel” when possible. In Learning Catalytics, you will find Pearson-provided content as well as a searchable shared question library where instructors can share questions that they have successfully used in their classes. This way, you can prepare for class by combining your own questions with what you find to be the best questions that others have written. We encourage you to share questions that you have found particularly useful in class.
- Use a graphical tool to map out the classroom seating arrangement, and when students arrive in class each day they use any web-enabled device to indicate what seat they are sitting in. During class, you can — with only a few clicks — have Learning Catalytics automatically assign students to groups and send a message to each student’s device telling them who to talk to (e.g., “turn to your left and talk to Harry Potter”).

Consider how you will present Learning Catalytics to your students

- Interactive techniques might be new to students. It is important to motivate students to participate from the very beginning of the course. Encourage your students to participate in interactive learning by explaining the method at the beginning of the course, by using the feedback from pre-lecture

assignments to plan your lectures, and by making sure that your exams reflect the type of questions you ask in class.

- Try to connect what they work on in Learning Catalytics to their learning outcomes and professional aspirations so they see the relevance and purpose.
- Remind students of your requirement to use Learning Catalytics *before* you use it in class. Encourage your students to confirm their access to Learning Catalytics *before* you deliver your first Learning Catalytics session. If they wait until they are prompted to join a session, those who haven't purchased access will be prompted to do so when they try to join.
- Run a practice session before you use Learning Catalytics for points so students can get used to using the system and you can make sure they have their access set up prior to running a session for points. You can also assign a Learning Catalytics session outside of class before the first session run in class to help students get set up before they use it for in-class learning.
- For students who don't have a device, you can supply a printed PDF version of the module questions.
- Explain Learning Catalytics on your syllabus, including the reason why you are using it in your class.

- At the beginning of the semester, show them the [analysis](#) (Scott Freeman, 2014) of how students in active learning courses do better than traditional lecture courses.
- Talk with students throughout the semester about how they are learning. Keep them informed about the learning outcomes for each lecture and how those learning outcomes are also incorporated into their homework and exams.

Training & Support Options

From the Learning Catalytics website, select Training & Support < Educator to find:

- [Planning Toolkit](#)
- [How Do I? Video playlist](#)
- [Request Training link](#)
- Implementation Guide
- [Prerecorded Training Sessions](#)
- Documentation links (varies)
- [Get Your Students Started materials](#)
- [Instructor Feedback Forum](#)
- [Support](#)

In addition, refer to the [Learning Catalytics User Stories](#) to become familiar with what Learning Catalytics can do and how professors use it.

Important: *If you use Learning Catalytics integrated with Mastering or select MyLabs:* Refer to the product-specific guides and documentation (listed below) for information about the integration. In particular, it is very important to understand how you and your students access Learning Catalytics and how grade transfer works (if applicable).

Product	Product-specific Information
Learning Catalytics Standalone	Documentation
Learning Catalytics fully integrated: Mastering Modified Mastering	Quick Start Guide: Learning Catalytics for Mastering and Modified Mastering Documentation
Learning Catalytics fully integrated: MyMathLab MyStatLab	Quick Start Guide: Learning Catalytics for MyMathLab & MyStatLab Documentation

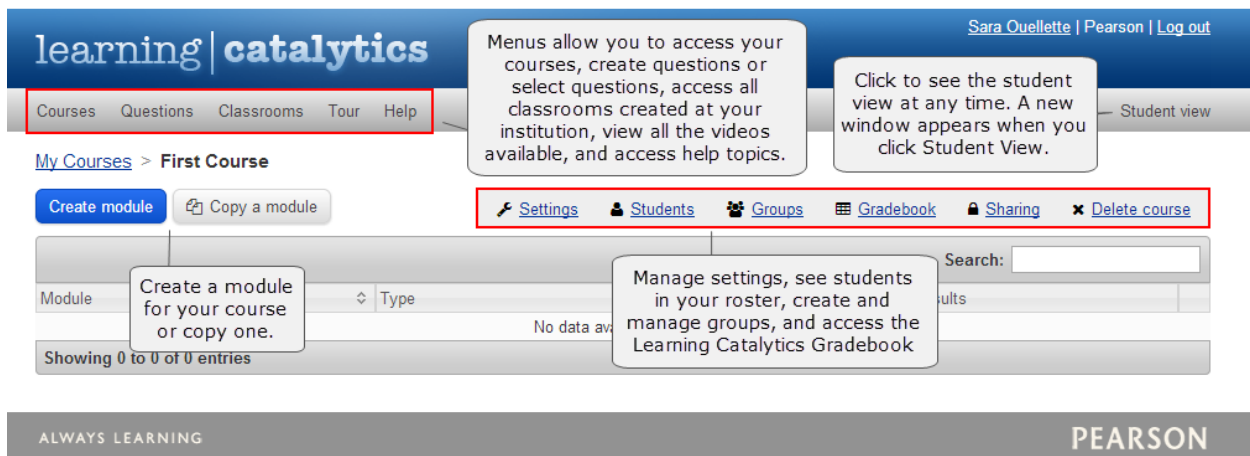
<p>Learning Catalytics fully integrated:</p> <p>MyAccountingLab</p> <p>MyBCommLab</p> <p>MyBizLab</p> <p>MyBusinessLawLab</p> <p>MyCJLab</p> <p>MyEconLab</p> <p>MyEntrepreneurshipLab</p> <p>MyFinanceLab</p> <p>MyManagementLab</p> <p>MyMarketingLab</p> <p>MyMISLab</p> <p>MyOMLab</p>	<p>Quick Start Guide: Learning Catalytics for Business and Criminal Justice MyLabs</p> <p>Documentation</p>
<p>Learning Catalytics fully integrated with:</p> <p>MyFoundationsLab</p> <p>MyLiteratureLab</p> <p>MyNursingLab</p> <p>MyReadingLab</p> <p>MySkillsLab</p> <p>MyStudentSuccessLab</p> <p>MyWritingLab</p>	<p>Documentation</p>
<p>Learning Catalytics integrated (single sign-on for select titles):</p> <p>MyAnthroLab</p> <p>MyArtsLab</p> <p>MyCommunicationLab</p> <p>MyHistoryLab</p> <p>MyPsychLab</p> <p>MySocLab</p>	<p>Quick Start Guide for select Humanities and Social Sciences Courses</p> <p>Documentation</p>

MODULE 3: GET STARTED WITH LEARNING CATALYTICS

The Learning Catalytics interface varies slightly depending on whether you access Learning Catalytics from within a Mastering or MyLab course or directly by signing in at learningcatalytics.com.

Note for MyLab and Mastering users only: Signing into learningcatalytics.com with your MyLab or Mastering username/password allows you to run sessions the same as you would if you signed in to a MyLab and Mastering course and crossed over to Learning Catalytics. However, if you use Learning Catalytics with a MyLab or Mastering product, it is recommended you suggest to students that they always set up access, purchase, and access all sessions directly from within their MyLab or Mastering course. This avoids students creating a duplicate account or using the wrong Pearson account for your Learning Catalytics sessions. If students use a different account from their MyLab or Mastering course to answer Learning Catalytics questions, then their grades will not successfully transfer from Learning Catalytics to the MyLab or Mastering course. For more information on student access, please refer to Module 4, Student Access to Learning Catalytics, in this guide.

The screenshot below represents the interface when you sign in directly at learningcatalytics.com. Some basic functionality is only available when you sign in directly at learningcatalytics.com by design including the ability to copy a course or share a course. This is because when using Learning Catalytics with a MyLab or Mastering course, you should copy courses or add colleagues from *within* the MyLab or Mastering course.




Create and Set Up a Course

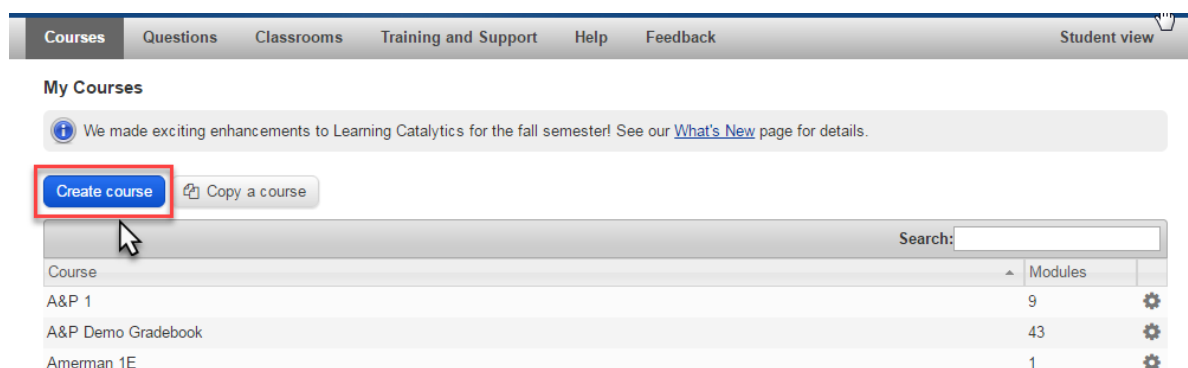
The Courses area lists all of your Learning Catalytics courses. If you use Mastering or select MyLab courses with Learning Catalytics integration then courses are created automatically when you enter Learning Catalytics through Mastering or the MyLab product. Within each course, you can create multiple modules. You can copy modules between your courses.

Note: Directions below apply only to users of Learning Catalytics standalone. If you use Mastering or select MyLab courses integrated with Learning Catalytics, then the Learning Catalytics course is created automatically when you crossover from the Mastering or MyLab course to Learning Catalytics from the link on the Course Home page. For more information, refer to the appropriate [Learning Catalytics Quick Start Guide for your MyLab or Mastering product](#).

Step-by-Step Instructions: Create Course

1. Click  in the Learning Catalytics menu bar.
You see the list of your courses.
2. Click **Create course**.

*Note: If you entered Learning Catalytics from a MyLab or Mastering, you cannot click **Create course**. If you use MyLab or Mastering integrated with Learning Catalytics, you do not create a separate course. Instead, the course is created automatically when you crossover from the MyLab or Mastering product to Learning Catalytics. You only see the **Create course** and **Copy a course** options when you sign in directly at learningcatalytics.com.*



The screenshot shows the 'My Courses' section of the Learning Catalytics interface. At the top, there is a navigation bar with links: Courses, Questions, Classrooms, Training and Support, Help, Feedback, and a Student view icon. Below the navigation bar, there is a message about enhancements for the fall semester. The main content area shows two buttons: 'Create course' (highlighted with a red box) and 'Copy a course'. Below these buttons is a table of existing courses.

Course	Modules	
A&P 1	9	⚙️
A&P Demo Gradebook	43	⚙️
Amernan 1E	1	⚙️

Name your course, which students see. Select a discipline from the drop down. Click **Save and Continue**.

[My Courses](#) > **Create new course**

Create Course

3. Give the new course a name, and select the discipline that you are teaching in.

Name*
The name of the course, as shown to students.

Discipline*

Edit any of the default settings you would like to change, and then click **Save**. Please see the best practices for course settings below for recommendations.

4. You can always edit course settings later as well.

[My Courses](#) > [Demo Course](#) > **Settings**

General Information

Name*
The name of the course, as shown to students.

End Date
The date when the course ends (enter as YYYY-MM-DD or click to select date).

Discipline*

Classroom
The seating map for the classroom where the course will be taught. [+ Create new classroom](#)

Settings

Allow review after hours
Allow students to review all of the questions and answers in your delivered modules after this much time has elapsed since the start of the session.

☐ Enable "I don't understand" button and real-time graph
If checked, students will have access to a button at all times where they can indicate when they are understanding or not.

☐ Enable automatic pacing
If checked, Learning Catalytics will automatically manage the timing of question delivery, and automatically group students based on question results. (We recommend that new users keep this feature turned off initially.)

Default Grouping Settings

These settings apply to both Automated Synchronous modules and Instructor-Led Synchronous modules when automatic pacing is turned on.

Lower bound for grouping
e.g., 30 for 30%

Upper bound for grouping
e.g., 70 for 70%

Default group size
Students should be placed into groups of size...

Default group indicator
Group students based on their...

Default group comparison
Group students when the indicators (above) are...

Default group tolerance
Only group students that are sitting...

LMS Integration

Consumer Key

Shared Secret

Configuration URL [? What's this?](#)

Launch URL

Best Practices: Course Settings

- **It can be a nice time saving feature to use other instructors' seat maps from your institution.** Instructors at the same institution see all the classrooms at that institution. Note: If you are concerned about other instructors editing your classroom seat map, you can name your classroom your name or something creative instead of the actual classroom name.
- **In Course Settings, it is suggested to not select automatic pacing until you are comfortable using Learning Catalytics.** If you select this option, delivery is based on pace of student responses. It begins with a “count up” timer displayed on the student window and transitions to “count down” timer based on response frequency. When time expires in Round 1, students will be automatically grouped for peer instruction if 30-70% of students answered the question correctly. When time expires in Round 2 (or if too few or too many students answered the question correctly in Round 1) Learning Catalytics will automatically show students the results of the question.
- **If you are using the Team-Based response type, consider creating permanent groups for these activities.** The [Team-Based Learning Collaborative](#) has some advice on how to form permanent teams.
- **Enable “I don’t understand” button and real-time graph.** If checked, students will have access to a button at all times where they can indicate when they understand or not. This can provide you with a nice visual of student confusion.
- **Create a seat map if you want to do automatic grouping in the Instructor-Led Synchronous response type.** If you have a large course, consider having a TA create your classroom seat map for you. The seat map will give you a visual view of student responses.
- If your class size is small, you can still group students automatically for discussion but they may be grouped with any other student in the room.
- **Check your review settings and let your students know about the review option.** Student surveys have indicated that students find the session review helpful to prepare for exams and reconnect with the content after

class. Note that students do not have a Learning Catalytics Gradebook. They can review past sessions, but you should export Learning Catalytics scores from your Learning Catalytics Gradebook and share with students.

Tips from other Users:

- Watch the short [video](#) to see how Professor Christine Lindstrom uses Learning Catalytics for peer instruction in her classroom.
- Read the Learning Catalytics user story from [Matt Stoltzfus, Chemistry Department, Ohio State University](#).

Create a Classroom Seat Map

This lists all of the classrooms in Learning Catalytics *for your institution*. A classroom is associated with a course and shows the physical layout of the seats in the room. You can create a course without associating a classroom with it, but by creating a classroom in the system you will be able to see the spatial distribution of right and wrong answers around the room and you will be able to automatically group adjacent students sitting near each other for discussion based on their responses.

Once you have created a classroom, associate it with the course by editing the course and selecting your newly created classroom from the dropdown there. Then when you are delivering questions you will have several new features available to you:

- A seat map button next to each round's results that you can use to view the real-time results for that round overlaid on top of the seating chart
- An Assign Groups button that you can use to automatically assign students to optimal discussion groups based on their responses.





Video: [Create a Classroom Seat Map](#)

Copy a Course

The instructions below apply to Learning Catalytics standalone courses. The instructions also apply to ANY courses you see when you sign in directly at learningcatalytics.com including MyLab and Mastering courses linked to a Learning Catalytics course.

If you use MyLab or Mastering with Learning Catalytics: When you copy a MyLab or Mastering course, the Learning Catalytics modules also copy to the new course. Note that you will need to enable Learning Catalytics by clicking **Use with Students** again within the copied Mastering or MyLab course. If you sign in directly at learningcatalytics.com and copy a course that is linked to a MyLab or Mastering course, then your copied course becomes a Learning Catalytics course that is no longer linked with a MyLab or Mastering course.

1. Click  in the Learning Catalytics menu bar.
2. You see the list of your courses, which you can sort by any column.
3. Click  Copy a course.
4. Select the course to Copy from, and click OK.
5. The new copy appears in your Courses list, with the name "Copy of [original course name]." All modules in the original course are copied using the same "Copy of" naming convention.
6. Student data associated with the original course is not copied into the new copy.
7. Open the Settings page to make changes to any course information, and then click Save.

Question Formats

You can easily create your own questions on the fly or ahead of time with Learning Catalytics. You can also choose questions from the Pearson library (if available for your discipline) or from the community questions shared by other professors.



[Description of Question Formats](#)

Student Roster

Click **Students** to see the students in your Learning Catalytics roster.

[My Courses](#) > [Anatomy and Physiology I](#) > **Students**

Last name	First name	E-mail	Student ID
ouellette	sara	sara.ouellette@pearson.com	

Showing 1 to 1 of 1 entries

If you click the gear, you can remove students from the Learning Catalytics roster.

Create Permanent Teams

Use the Groups tools to create permanent groups for team-based learning activities. Drag students from the left side to a box on the right to add each student to a group.

Create Student Groups

Use this tool to create permanent groups for team-based learning activities. Drag students from the left to a box on the right to form a group.

Group 1

Group 2

Group 3

Gradebook

The Learning Catalytics gradebook is where you can see a list of students with the points they have earned for each module. You can edit scores as well as download them. You can also drill into the student performance.

Note: Mastering and select MyLab courses allow for automatic grade transfer from Learning Catalytics to the Mastering or MyLab gradebook. For more info, refer to topic later in this guide on results and scores in Learning Catalytics.

Students do not have their own Learning Catalytics Gradebook to view scores. If you want students to view their scores, export their results and import them into a LMS where you keep their scores in the course. Students can review past sessions, but they don't have the results in a Gradebook.

Share a Course with a Colleague or TA

You can share your course with other instructors. Each instructor you share your course with has full access to the course. Depending on whether you use Learning Catalytics standalone or Learning Catalytics integrated with MyLab or Mastering, your sharing options differ.

If you use Learning Catalytics on its own (standalone): You can share a course with other instructors or a TA who may help with the course. Once you share a course, each person you have shared the course with has **full** access to the course.


Colleagues and TAs can help with a course in various ways, including the following:

- Create a seat map
- Create teams and groups
- Set up modules
- Create questions
- Deliver module sessions
- Monitor messages and student understanding in module sessions you deliver

- Review session results and manually grade questions
- Review a student's performance
- Edit scores in the Learning Catalytics Gradebook
- Delete your course

Step-by-Step Instructions

Others with whom you share a course must have a Learning Catalytics instructor account. Creating an account requires an access code, which can be obtained from your [Pearson rep.](#)

1. Click the course you want to share from your **My Courses** list.
2. Click  **Share course**.
3. Click **+ Share this course with another instructor**.

Enter email addresses of instructors that you want to share this course with, and then click **OK**.

Remember: *The people you invite to share the course will have **full access** to your course, including student data.*

MODULE 4: STUDENT ACCESS TO LEARNING CATALYTICS

Learning Catalytics in Action

Learning Catalytics is an interactive classroom tool that lets you use your smartphone, tablet, or laptop to participate and stay engaged. Simply respond to the questions your instructor posts during class. Your professor can use the results of these questions to help address misunderstandings, start small group discussions, or decide that you're ready to move on to a new idea. With Learning Catalytics, you can tell your professor know that you did—or didn't—understand without saying a word.

Student Access Directions

Student access directions vary by product, such as Learning Catalytics (standalone) or Learning Catalytics integrated with Mastering or select MyLab courses. Please use the table below to see the product-specific student access resources.

Important: *DO NOT send your students to the Learning Catalytics website to confirm or purchase access if you use Learning Catalytics with MyLab or Mastering. If students create a separate Learning Catalytics account, Learning Catalytics scores will not transfer successfully to the MyLab or Mastering Gradebook. See directions below.*

Product	Student Handout
Learning Catalytics (standalone)	Handout
Learning Catalytics fully integrated with: Mastering Modified Mastering	Handout
Learning Catalytics fully integrated with: MyMathLab MyStatLab	Handout
Learning Catalytics fully integrated with: MyAccountingLab MyBCommLab MyBizLab MyBusinessLawLab MyCJLab MyEconLab MyEntrepreneurshipLab MyFinanceLab MyManagementLab MyMarketingLab MyMISLab MyOMLab	Handout

<p>Learning Catalytics fully integrated with:</p> <p>MyFoundationsLab MyLiteratureLab MyNursingLab MyReadingLab MySkillsLab MyStudentSuccessLab MyWritingLab</p>	<p>Handout</p>
<p>Learning Catalytics integrated (single sign-on) with:</p> <p>MyAnthroLab MyArtsLab MyCommunicationLab MyHistoryLab MyPsychLab MySocLab (single sign-on integration is only available with select MyLab titles)</p>	<p>Handout</p>

Best Practices: Student Access

- Encourage students to confirm their access before you deliver your first Learning Catalytics session. If they wait until they are prompted to join a session, those who haven't purchased access will be prompted to do so when they try to join.
- ***If you use Learning Catalytics with MyLab or Mastering,*** make sure students always check access or purchase access from *within* their MyLab or Mastering course. Students SHOULD NOT go to learningcatalytics.com and create a new account there. If they do, their scores will NOT successfully transfer from

their Learning Catalytics session to the MyLab or Mastering gradebook. If students do sign into Learning Catalytics at learningcatalytics.com after they have set up or purchased access via their MyLab or Mastering course, then they need to sign in with the exact same username and password as their MyLab and Mastering course for grades to transfer successfully.

- It is a suggested best practice to assign a module that they can work on outside of class such as a Self-Paced, Self-Test, or Automated Synchronous module and make it due before students are asked to work on Learning Catalytics in class. This way they get their access set up and are familiar with how to access Learning Catalytics prior to working on it in the classroom.

Purchasing Options

Learning Catalytics is available with many of the MyLab and Mastering Products. Please consult with your Pearson Sales Representative to learn more about availability and purchasing options.

To find your Pearson Sales representative, please click [here](#).

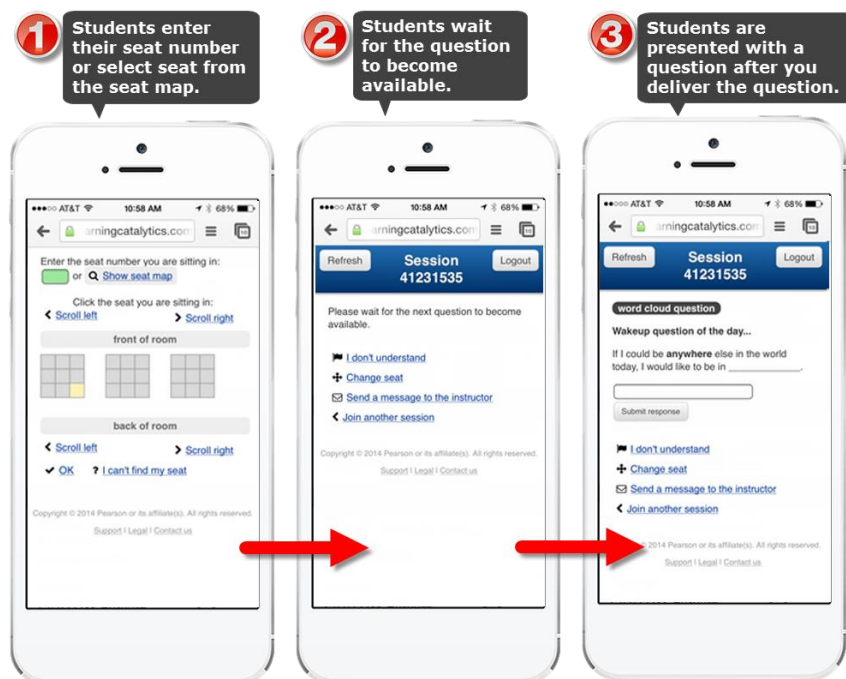
Student Experience

Students can use any modern web-enabled device, including laptops, smartphones (iPhone, Android, and so on), and tablets (iPad, Kindle Fire, and so on). Learning Catalytics is completely web-based so there is no software to install for the student or the instructor.

If students forget their device, you can print out a PDF of the modules and have this available during class. Also, it might be helpful to warn students to charge up their device for class, depending upon access to outlets for charging purposes. A suggestion by a Faculty Advisor is to purchase a rechargeable backup battery to bring to class so students can share it. Backup battery chargers don't require students to plug in during class. They are external battery packs that can be used on the go for a little extra power for a dying phone or tablet. Look for a model that is capable of charging an iPhone or iPad, Android phone, and any other device that charges over microUSB or USB.

Student Experience during a Synchronous Session in Class

To give you an idea of the student experience during a synchronous session where you've decided to group students, view the screenshot path below.

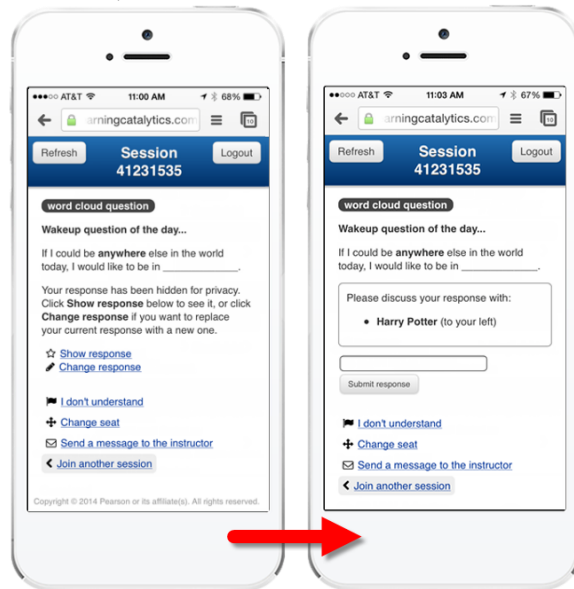


4

Students see a confirmation after they have submitted their answer.

5

If you group students automatically, students see a personalized message telling them who to talk to.



MODULE 5: INSTRUCTOR-LED SYNCHRONOUS RESPONSE TYPE

If you are delivering questions in a module synchronously, there are best practices to follow when grouping students for productive classroom discussions. Peer Instruction helps students learn by encouraging them to articulate their thinking. The discussion process helps both the stronger and weaker students. Research has shown that Peer Instruction yields significant gains in conceptual understanding, problem solving skills and long-term retention.

See a flowchart (Figure 1) below demonstrating the recommended peer instruction implementation process. How the instructor decides to advance is dependent on course content and the student population; the flowchart provides an overall guide to productive peer discussions in class. Click here [to see Eric Mazur present on the use of this technique](#).

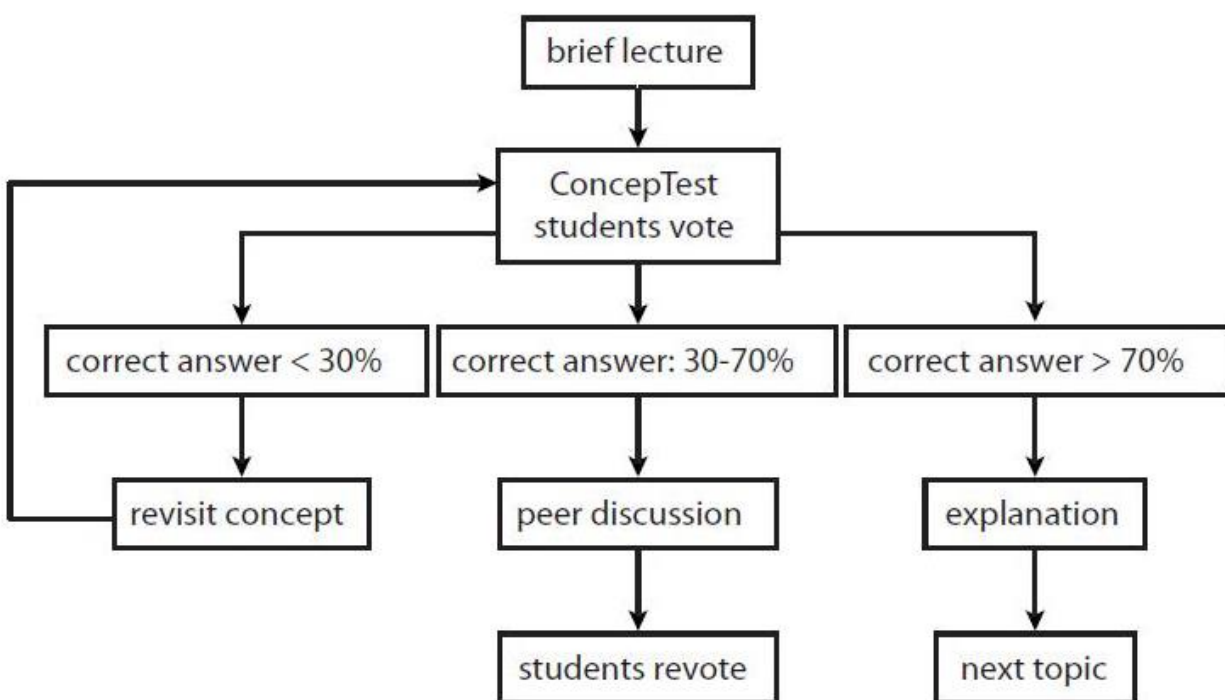


Figure 1 (Lasry, 2008)

Steps for Productive Peer Instruction

1. After a brief presentation of the concept, students are given a few minutes to submit an individual answer.
1. If the appropriate percentage of students answers the question correctly (usually between 30 and 70%), students are grouped in pairs or small groups. Typically, you will want try to group students with different answers, or students with correct and incorrect answers. This way, students can compare and discuss their answers. If less than 30% have the correct answer, you may want to lecture more on the topic prior to any discussion. If more than 70% have the correct answer, you can typically skip the peer discussion and instead provide a brief follow-up explanation and move to the next topic.
2. After you initiate peer discussion, move around the room to promote discussion and guide student thinking. In a student-centered class, students help each other and learn from each other. They may reach out to you for help or guidance after they've tried to work through the question among themselves. (Note: The Learning Catalytics interface allows you to view the student responses and their spatial distribution around the room in real-time, so you can see the students that might need help.) Your role during group discussions is a facilitator so that students are active participants in the learning process.
3. After several minutes, the students answer the question again. Depending on student answers, you can explain the concept, provide feedback, or offer advice. Then, move on to the next topic.



Videos: Instructor-Led Synchronous Modules

- [Video: Create an Instructor-Led Synchronous Module](#)
- [Video: Add a Classroom Seat Map](#)



[Deliver a Session on a Mobile Device \(PDF\)](#)

Best Practices: Create and Deliver a Module in Class

Plan the Module Design and Delivery

- Ask questions that address your students' misconceptions and reveal the kinds of uncertainties they might have about that material.
- Make sure to incorporate concepts and learning outcomes from your Learning Catalytics modules into your exams and any other assignments to tie it all together for your students and to make the in-class experience a productive one for them.
- Use the information you receive from pre-lecture assignments to help you decide on what to focus on in class. Focus on your students' common misconceptions and move up Bloom's Taxonomy for in-class activities.
- When you design your module, keep in mind how much time in lecture you want to dedicate to active learning (such as 5%, 40% or 80% of lecture time).
- When thinking about your module design, consider various active-learning activities. These may include knowledge questions, discussion questions, conceptual questions, case studies, and data-driven problems. Learning Catalytics allows you to pose questions to students in the most natural and "authentic" way possible so there is no need to force questions into a multiple-choice format.
- Modules can be used synchronously in class or in lab. Example implementations in lab may be to have students upload images, answer region questions, or take a lab practical on Learning Catalytics.
- Practice delivery and view the student view before you use Learning Catalytics in class. This will increase your confidence and ensure things go smoothly during lecture.
- Consider using the mobile user interface for delivery of Learning Catalytics in lecture. This will allow you to deliver questions in a module from your device and view responses to make it very easy for you to move around the room during peer discussions.

- Plan what you will project in class. If you plan on using only your computer in class and not pulling up Learning Catalytics on your device, figure out what you want students to see from your computer and how you want to set up the projector.

Click here to see [how to set up Learning Catalytics in the classroom](#).

Click here to learn how to [deliver a session from a mobile device](#).

Consider Student Gains Assessment

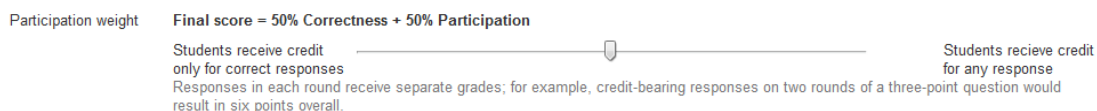
- Pair targeted activities with diagnostic assessment strategies. If you want to assess student gains, consider designing a module to assess student understanding of a process. Create a module with a five or six question set of multiple choice and true/false questions that require a short-answer response explaining answer choice so you can determine reasoning type (i.e. informal, mixed, or principled scientific reasoning) as a pre-test. This should take about 15-20 minutes to complete.

Questions should directly relate to the targeted active-learning exercises used in the lecture. Don't discuss the questions in class. Consider asking these questions again at the end of the semester as a post-test. This will allow you to compare the pre- and posttest results to measure student gains. It can help you implement targeted active-learning activities in the future. Consider giving no points and encourage students to try their best. (April Cordero Maskiewicz, 2012 Spring)

- Consider asking questions in a pre-test in the beginning of the semester to get a baseline such as prior knowledge assessment, conceptual inventory, and attitudinal survey. Consider using standardized conceptual inventories like the Force Concept Inventory, where available and appropriate. At the end of the semester or on an exam, ask them again.
- Consider conducting a student survey to learn more about your students' experience. A survey can provide you with helpful feedback on your Learning Catalytics implementation.

Module Setting Tips

- To encourage open discussion, you may want to give little or no credit for correctness. With Learning Catalytics, you can set grading so students are only graded on participation or correctness. You also have a slider that allows you to adjust the weight of participation vs. correctness.



- If you want student grades to transfer to the Mastering or MyLab gradebook, be sure to click the checkbox. You can always turn this off after the session if you decide later not to have the grades transferred into the Mastering or MyLab gradebook.
- If you want to see a student reaction graph during sessions, you will need to turn this on in your course settings before you deliver the module. This presents students with an “I don’t understand” button they can click or tap at any time during the session; a real-time graph accessible on your display via the Reactions button helps you gauge student confusion in real-time.
- You can adjust points for questions added to the module. Consider this as you add questions to your module. Some questions are not graded automatically and have a default of 0 points. You can also assign points to questions that cannot be automatically scored (e.g., sketch questions). If you set scoring based on correctness for questions that are not graded automatically and give them a point value, you will have to manually grade the answers.
- You can now prevent students from reviewing any type of module by checking a box during module creation. However, keep in mind that students do appreciate the ability to review past sessions. Students can review past sessions from any web-enabled device or computer.

Select or Create Content for Your Module

- Questions should challenge students appropriately by being neither too easy, nor too hard; aim for somewhere between 30 and 70 percent of the students to answer it correctly on their own, before discussion.
- Look through the publisher-provided content and the community content to find questions to use in-class. You can add these to your module or add them along with your own questions as well.
- When writing a question, use the Learning Catalytics question type that most naturally maps to the kind of question you want to ask such as region, sketch, ranking, word cloud, priority, many choice, short answer, data collection, direction, confidence, composite sketch, multiple-choice, and so on.
- Focus on questions that promote higher-level learning. The important thing is that class time should be used to deepen understanding, apply concepts, and improve skills.
- You cannot edit Pearson questions, even if you copy a question. You can edit your own questions or community questions.
- When searching for questions in the library, use the filter options in any combination to target your search results.
- Consider adding a ‘wake up’ question as your first question delivered in class, to ensure that students are logged in and ready to go when you are ready to ask your first “real” question. If you consistently have a question available before class starts and stop delivery at the beginning of class, you can avoid wasting class time as students log in on their devices. A great example is the word cloud question type. This can be a great way to engage students at the beginning of class. Instructors find it useful to deliver a general survey question (with no correct answer) as students enter class.
- Consider adding questions related to your last lecture or copying questions you didn’t get to from a past session. This can also help students connect topics from one lecture to another.

- Consider covering the same case study in class over several lectures. You can relate the case to different concepts during each lecture; for example, one day you apply the case study to immune system topics and the next lecture you apply the case to nervous system topics, and so on.

What to Consider During Delivery of a Module

- For classroom-based sessions, see [How do I set up Learning Catalytics in the classroom?](#), which discusses options for classroom setup based on the equipment that is available to you (mobile device or laptop, projector, and tablet or second laptop).

Click here to learn how to [deliver a session from a mobile device](#).

- Use the formative feedback from Learning Catalytics. You can see anonymous responses, specific student responses, reactions (if you've added this to your course settings), and the elapsed time. If you group students, you can see pre-discussion and post-discussion responses side by side.
- Use automatic grouping to engage in peer-to-peer instruction based on student responses to the first round. If the appropriate percentage of students answers a question correctly, you can form automatic groups of students to discuss their responses to the first question round. Students then answer again individually after discussion in a second round. Typically, you will want try to group students with different answers, or students with correct and incorrect answers. This way, students can compare and discuss their answers.
- Move around the room to encourage discussion and student thinking. Use the seat map with real-time responses as a guide. Deliver modules from your mobile device to provide you with easier mobility around the class.
- Group students into heterogeneous groups; experiment with larger group sizes. Consider the number of students in your class when making the grouping selections. For more grouping techniques and strategies, see the lesson on Grouping Strategies.

- Consider asking questions on the fly if it will help further understanding of a concept. An on-the-fly question becomes part of the module.
- A suggestion from Eric Mazur is to develop new questions by giving students open-ended prompts in class and then using students' responses as the answer choices. These could be created as a question on the fly. (Schell, 2014)
- Students can send you private messages during a session. You will see them appear on your screen (bottom left corner of instructor dashboard). You can read it during a session or wait until after the session. You have the ability to mark it as read as well. Use messages to encourage participation; read when there is a "break in the action".
- Use "I still don't get it" to flag when more discussion is needed.
- Consider when and if you want to push the class results to students' devices and to the student window (if using a projector). Once you display results, students can no longer change their responses. You can click **Hide results** to return the question to delivery mode and allow students to respond again. **Important:** When you click **Show all Results**, be careful and select either:
 - Revealing the correct answer
 - Without revealing the correct answer

After the Module Delivery Tips

- You can edit any of the questions you create later for future use. For example, you may want to add feedback (which students see when they review the session), tags, or notes. You can also decide to share questions later in the community library that have been successful in your course.
- After a Synchronous session, you might want to remove any questions you don't get to after the session. If you leave questions in the module that you haven't gotten to, students will be able to review those questions after class.

- You can clone your modules to use in other courses and you can also clone your questions to use in other modules. If you have a question that you want to create that is similar to another question, cloning can save you time creating the second question. After you clone them, you can edit them or keep them the same.

Grouping Techniques for In-class Delivery

Creating opportunities for peer instruction is easy when delivering questions in synchronous modules. This can be done either formally or informally. The best opportunities for peer instruction occur when a question is delivered and the correct answer is given by 30%-70% of your students.

One option for peer instruction is created by formally assigning students to groups. Selecting “assign groups” allows this (see screenshot below) after you deliver a session.


The screenshot shows the Learning Catalytics interface. At the top, there are navigation links: Courses, Questions, Classrooms, Tour, Help, and a 'Student view' button. Below this, the breadcrumb trail reads: My Courses > Learning Catalytics-San Francisco > Science of Learning. The current session is 151233 with 0 students. A 'Stop session' button is visible. A progress bar shows questions 1 through 9, with question 5 selected. Below the progress bar, there are buttons: Stop delivery, Deliver again, Assign groups (highlighted), and Show all results. The question is titled 'Macromolecule Linkages (1 of 3)' and asks 'In which of the following figures contain peptide bonds? Select all that apply.' The question number '1' is displayed. The chemical structures are shown as three separate peptide backbone fragments (H-N-C(=O)-N-H-C(=O)-N-H-C(=O)-OH) with different side chains attached to the alpha carbons. The first side chain is -CH2-CH2-S-CH3 (highlighted in yellow). The second side chain is -CH2-CH2-OH (highlighted in green). The third side chain is -CH2-CH2-SH (highlighted in green). To the right of the question, a text box says 'Automatically assign students to groups, and then start another round of responding to this question' with '0 responses, 0% correct' below it. Below this, there are four answer options: A. 0%, B. 0%, C. 0%, and D. 0%.

The instructor will then be given the option of how Learning Catalytics will create the groups (see screenshot below). When students are grouped, the question is redelivered to the students. The first delivery is labeled “Round 1” and the second delivery is “Round 2.” Round 2 becomes a second chance for students to select the correct answer.

Options for assigning groups for peer instruction

During an Instructor-Led Synchronous session, select **Assign Groups** to automatically group students for peer instruction. You have options for the grouping:

1. Size of each group
2. What indicator will be used to create the groups
3. How students should compare within each group
4. Whether student location could be considered within the classroom.

Assign groups for peer instruction 

Group size:

2 ▾

Indicator:

response ▾

Comparison:

all different ▾

Group students:

next to each other ▾

If students can't be grouped:

reassign them to a seat next to another student ▾

Group and deliver

Cancel

As students get into their groups, they present and defend their selected answer to each other. Students often get into spirited discussions with each other, challenging other members of the group to defend their answer. Students tend to become very invested in identifying the correct answer, and will often delve into the text (willingly and without prompting) in order to back up their answer with evidence from the text. When the results are shown, students may question why their answer is not marked as correct, identifying specific misconceptions and generating valuable opportunities for specific instruction.

Tip: Use the seat map to identify students that may not be participating in Round 2. These students can be identified as the grey boxes (vs. green, red or yellow identifying students who have submitted answers). Groups that are not on task can be identified in this manner, and students not participating can be encouraged (by name) to consult with a student in the group that has correctly identified the correct answer.

A second way to create opportunities for peer or whole-class discussion is to select **'Show results without revealing the correct answer'**. This prompts Learning Catalytics to show all answers in blue, without indicating which answers are right or wrong.

At this point, you can informally group students by asking them to turn to their neighbor(s) to discuss and justify their answer. The instructor can then select **'Deliver again'** and students will be given another opportunity (round 2) to select the correct answer. The instructor can then select **'Show results, revealing the correct answer'**. At this point, students will see the results for both rounds, with correct responses shown in green and incorrect responses in red.

Alternatively, an instructor can stop delivery, elect to take time to teach specific areas where content gaps may exist, and then deliver the question again for a third round. Learning Catalytics can be used to deliver many rounds of a single question.

Best Practices: Group Students

Try the default settings for automatic grouping as these settings work for most classrooms.

When using the Assign Groups feature in a synchronous session, instructors should take several things into account.

1. Ease of mobility in the classroom
2. Productive student discussions
3. Randomness in successive discussions within a class period, or throughout the semester. You don't always want students in the same group each time.
4. Time invested in discussion, as time relates to distance traveled to/from seats when students must move.

While assigning groups in large class, especially in an auditorium style classroom, instructors may have to invest less lecture time when using smaller groups (2-3) seated relatively near one another (1-2 seats away). Small classrooms which are often conducive to student mobility, groups can be larger (4-5), and may be able to move about small rooms easier (2-3 seats). In small classrooms where having students get up and walk around is not an issue, instructors can also choose to

have Learning Catalytics disregard the location information entirely and group students independently of their location in the room.

Use the **Comparison** setting to structure your group dynamics. There are three options, each with benefits and drawbacks.

1. **All Different** - This choice can lead to provocative discussions as each student comes with a different opinion. However, this may make grouping difficult in small classrooms where it may be difficult to generate several groups where all have different opinions.
2. **All the Same** - This choice may lead to less discussion, as everyone comes to the group with the same opinion, and it may be the wrong opinion. This can make for rapid discussion, since it does not provoke conflict as often as the other choices.
3. **Not all the same** - This choice is a good all-around compromise and it generates groups with a mix of opinions. This is often the easiest type of group for the system to generate. There are differing opinions in most groups. This tends to provoke good discussions in most classrooms. This choice fits well in classrooms of all sizes.

Use the **Indicator** setting to toggle between **Response** and **Score**. The effect this has will differ depending on the question type. The effect of **Indicator** is influenced by the **Comparison** choice as well.

1. **Response** - This will vary groups based on all possible answer choices. For instance, if you are grouping based on **Response** and **Comparison** is **Not all the same** there will be a mixture of different answers.
2. **Score** - This will vary groups based on whether a student was right or not. In many questions a 'wrong' answer could come in several forms. Using a **Score** indicator with an **All Same** comparison setting would create some groups where all students were right and other groups where every student got the answer wrong. This could lead to entire groups arguing between several wrong answer choices, with none arguing for a correct choice.

Display a PowerPoint Presentation during a Session

You can now select a multi-slide .PPT or .PPTX file to deliver as a Slide question in an Instructor-Led Synchronous session. This new feature allows you the flexibility to present one or more slides, deliver a question about the material presented, and resume delivery of the slides at the point where you left off—without ever leaving Learning Catalytics. Easy navigation within the presentation lets you move forward or backward through the slides, or skip around as needed to best present the material and address student questions.

Students see the slides on their devices as you present them, and they can review the presented slides after the session, according to your review settings.

Tips for using a PowerPoint Presentation in Learning Catalytics

- Only use a Standard format PowerPoint presentation.
- File size must be less than 20MB, and animations, videos, and links in the presentation are not supported.
- To edit the presentation itself, open it and make changes in your presentation editor. Then click **Add/Change PowerPoint** again to upload the new version.
- Adding a **Prompt** for the Slide question is optional, but it helps you identify the question when you want to present the slides.
- When you add the Slide question to a session, you can place it first in the session order so you can easily find it if you are planning on jumping from the PowerPoint to other questions in the session. This way you can remember where it is in your session if you pop back and forth.
- As you go through a multi-slide PowerPoint, you can resume delivery of the slides at the point where you left off. For example, if you get to slide 4 and jump to another Learning Catalytics question, then when you jump back to

your PowerPoint, slide 4 is presented. You can then move forward with the rest of your presentation.

- You can only add a PowerPoint to Learning Catalytics. You cannot deliver Learning Catalytics questions while you are running PowerPoint on a computer. You must upload the PowerPoint to LC and run the presentation there instead of from PowerPoint.

Upload a PowerPoint Presentation into your Instructor-Led Synchronous Module

You can add a PowerPoint presentation to a module you've already created or add a PowerPoint presentation to a module during the initial module creation process.

1. If you have not yet created a module, select **Create Module** and then select **Instructor-Led Synchronous** as the response type. You will add the Slide question to the module under the **Add Questions and Customize Module** page.

Create Module
Give the new module a name, a delivery date, and select a response type.

Name*
The name of the module, as shown to students.

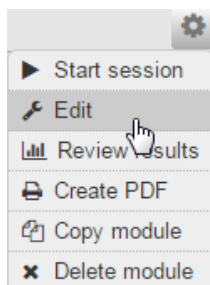
Date
The date is used for sorting modules within the table on the course page (enter as YYYY-MM-DD or click to select date).

Response type

Instructor-Led Synchronous Students respond individually to questions as they are delivered one at a time, typically in class or online with an instructor present.	Automated Synchronous Students respond individually to questions as they are delivered one at a time in an automated format, typically out of class at a set time when an instructor is not present.	Self-Paced Students respond individually to questions in any order, typically outside of class.	Self-Test Students respond individually to questions in any order and receive feedback on each of their responses, typically outside of class.	Team-Based Assessment Students respond individually to all questions in the module, and then gather in their groups and respond as a team to the same questions.
---	--	---	--	--

2 Save and Continue

Alternatively, you can add the PowerPoint presentation to a module already in your course. For the module, select **Edit**.



2. Select **+ Create a new question** under the Questions area.

Questions

Format	Question	Points	
<input checked="" type="checkbox"/> 1. composite sketch	The image presented above is of a red blood cell (RBC). Draw how the...	0	
<input checked="" type="checkbox"/> 2. multiple choice	Cell types that are prone to damage, and thus need to be constantly r...	1	
<input checked="" type="checkbox"/> 3. region	Select the cell that assists the immune defense against parasites and...	1	
<input checked="" type="checkbox"/> 4. direction	In this image, drag an arrow to indicate the DIRECTION of movement fo...	1	

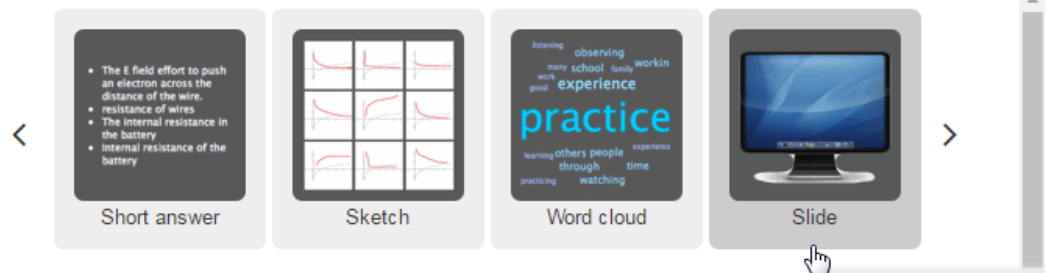
[+ Create a new question](#) [Add a question from the library](#) [Copy or move checked questions](#)

Save and Finish

3. Select **Slide** for the Question Type.

Create new question

Question Type



4. (Optional) Fill in the prompt.

Prompt



5. Under Options, click **Add/Change PowerPoint**.

Note: Animations, videos, and links are not supported. The PowerPoint must be less than 20 MB.

Options

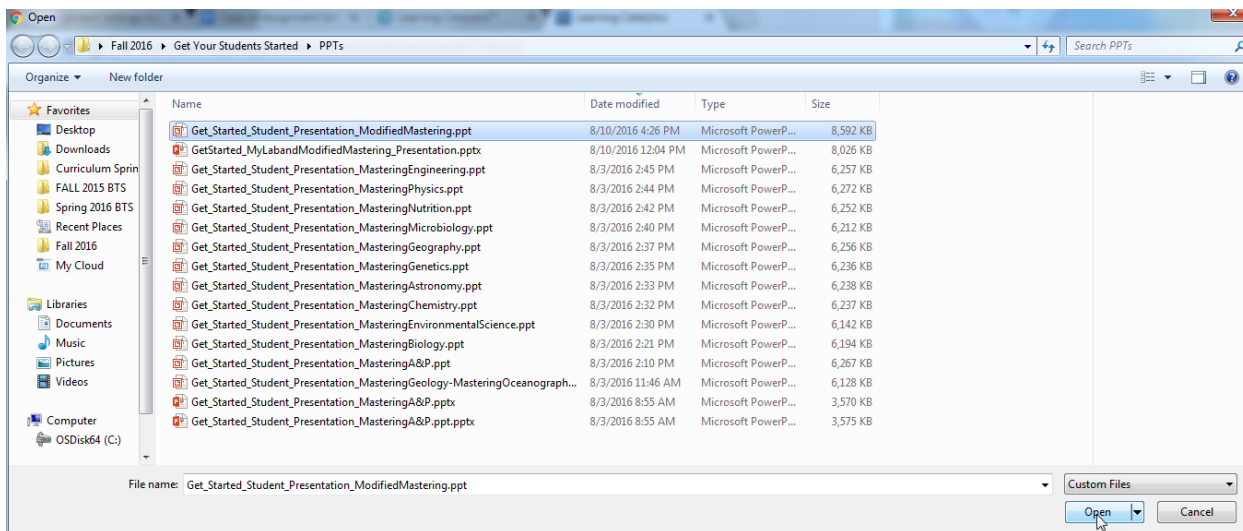
Students are shown a static slide, with text and/or graphics. (No response is requested from the student.)

Click "Add/Change PowerPoint" below to select a PowerPoint file to upload.

Add/Change PowerPoint

Note: Animations, videos, and links are not supported.

6. Select the PowerPoint file from your computer to upload into Learning Catalytics.



7. Once you've uploaded the PowerPoint file, you will see the title. If you select the red X, you will delete the file from the Slide question. You can always upload a new PowerPoint presentation by selecting Add/Change PowerPoint.

Options Students are shown a static slide, with text and/or graphics. (No response is requested from the student.)

Click "Add/Change PowerPoint" below to select a PowerPoint file to upload.

Get_Started_Student_Presentation_ModifiedMastering.ppt X

Add/Change PowerPoint

Note: Animations, videos, and links are not supported.

8. (Optional) Add an Answer/Explanation for students to see if they review the module after class. You can also add your own Notes, but students will not see those.
9. Your slide question is now in the module. By default, there are no points associated with a Slide question. It is not suggested to add points to this question because students do not answer questions from within the PowerPoint presentation.

Format	Question	Points
1. slide	PowerPoint Presentation	0

Note that you can adjust the order of the questions in your module. If you place the Slide question with the PowerPoint presentation at the beginning of the module, then you know that you can always jump back to it easily during delivery of the session.

Format	Question	Points	
1. slide	PowerPoint Presentation	0	⚙
2. region	Click on the area where most sensory input converges before it is sen...	1	⚙
3. direction	If the vessel shown at the yellow arrow has a thin tunica media and a...	1	⚙
4. many choice	A severe blow to the nose, as in the face striking the steering wheel...	1	⚙
5. region	Select the cell that assists the immune defense against parasites and...	1	⚙
6. region	Click on the muscle whose primary role is to force fluids and other s...	1	⚙
7. sketch	In the picture shown, please circle the four structures that are asso...	1	⚙
8. short answer	A strand of DNA has the following nitrogenous base sequence: ACGTAGC...	1	⚙
9. word cloud	Thinking through each of the bones of the appendicular skeleton, deve...	1	⚙
10. ranking	Put the layers of the epidermis in order from deep to superficial.	1	⚙
11. many choice	Identify the joints that may be seen in this picture (more than one a...	1	⚙

[+ Create a new question](#)
[Add a question from the library](#)
[Copy or move checked questions](#)

You can now run a PowerPoint presentation from within the module.

Display a PowerPoint Presentation during an Instructor-Led Synchronous Module from a Computer

The Slide question type lets you display a PowerPoint slide in Learning Catalytics without expecting responses from students on their devices. You deliver a Slide question much as you do any other question.

1. After you sign in at www.learningcatalytics.com, you see your courses listed. Select a course to see a list of modules in that course.

My Courses

We made exciting enhancements to Learning Catalytics for the fall semester! See our [What's New](#) page for details.

[Create course](#) [Copy a course](#)

Course	Modules	
A&P 1	11	⚙
A&P 1 Demo Gradebook	44	⚙
Ammerman 1E	1	⚙
Anatomy and Physiology I	21	⚙
Belk SE	1	⚙
Bio 101	4	⚙
BIO 120 General Biology I	45	⚙
BIO CAMPBELL DEMO CLINTON	0	⚙
Biology 101	0	⚙
Biology 10E	0	⚙
Biology 1406, BX2 Spring 2016	7	⚙
Biology 1406, MW 11:00am	20	⚙
Biology in Focus	1	⚙
Biology: The Core	2	⚙
blabla	1	⚙
Brown 13E Copy	0	⚙

2. Select a module that you want to deliver in this session.

[illegible]

3. Until you start the session and deliver a question, the questions in the module appear on your computer screen only. Select **Start Session**. Note that a student window pop up which you can move to a projector screen.


My Courses > [A&P 1](#) > Immune System Module

[▶ Start session](#) [Edit](#) [Review results](#) [Create PDF](#) [Delete module](#)



Jump to [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#) [11](#)

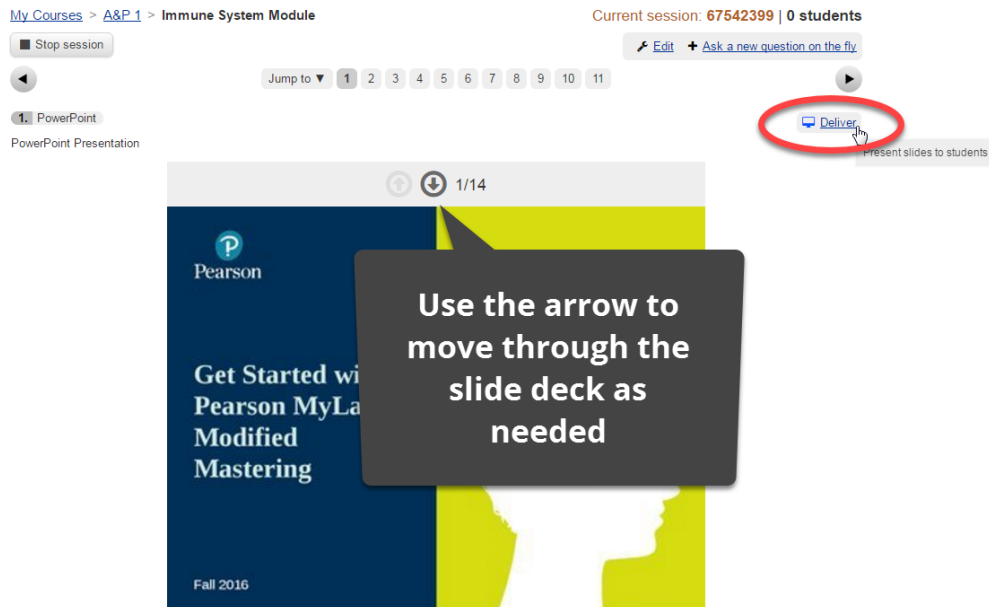
1. PowerPoint

PowerPoint Presentation



The screenshot shows a PowerPoint presentation slide. The slide has a dark blue background on the left and a yellow background on the right. On the left, the Pearson logo is at the top, followed by the text 'Get Started with Pearson MyLab & Modified Mastering' in white. At the bottom left, it says 'Fall 2016'. On the right, there is a white silhouette of a human head in profile, facing right. Inside the head, there are several concentric, wavy lines in purple and yellow, resembling a fingerprint or a brain scan. Above the slide, there is a navigation bar with a 'Start session' button and several links: 'Edit', 'Review results', 'Create PDF', and 'Delete module'. Below the navigation bar, there is a 'Jump to' section with a dropdown arrow and a list of numbers from 1 to 11. The number 1 is highlighted. Below the 'Jump to' section, there is a 'PowerPoint' tab, which is also highlighted. Below the tab, there is a 'PowerPoint Presentation' label. At the top of the slide, there is a status bar with a circular arrow icon, a downward arrow icon, and the text '1/14'.

4. Find the slide question within your module. If you are presenting a slide that is not at the beginning of the presentation, you can move to another slide by tapping  (back) or  (forward). Once you are ready, select **Deliver**.



Student View: Once you deliver the question, the slide on your screen will appear in the student view.

Session 67542399

PowerPoint question

PowerPoint Presentation



 [Refresh](#)

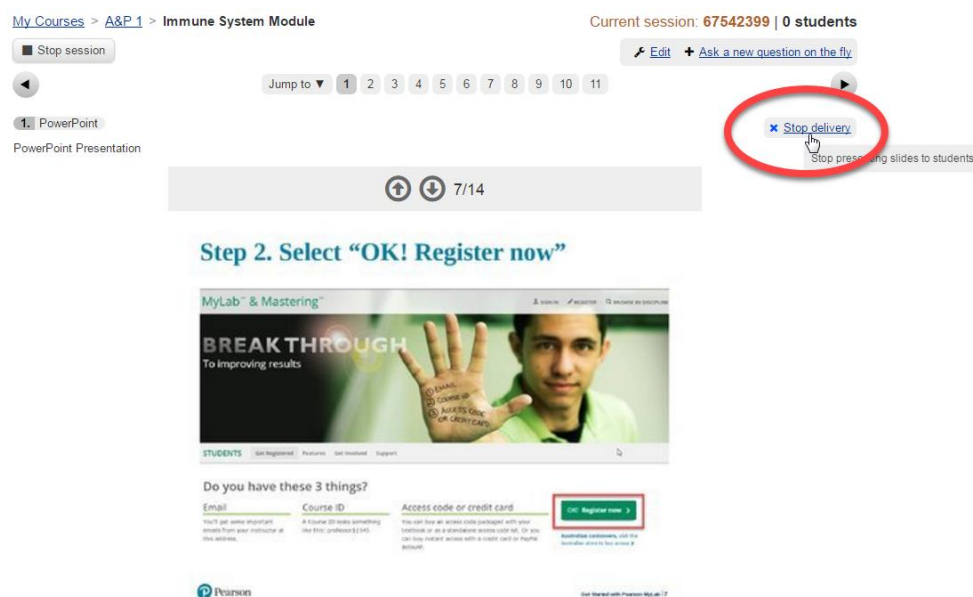
 [Send a message to the instructor](#)

 [Join another session](#)

5. During the delivery, you can move through the slide deck using the arrow. Students will see you moving through the PowerPoint on their screen.



6. If you plan to deliver a different Learning Catalytics question, you can stop delivery of the Slide question and deliver a different question. If you return to the Slide question during the session, the system remain exactly where you left off, and you can proceed forward or backward as you wish. To stop delivering the slide deck, select **Stop Delivery**. *Tip: Do not stop the session as this will require you to restart a different session in order to delivery more slides or other Learning Catalytics questions. If you deliver the same session more than once, you will see both sessions as separate columns in your gradebook.*



Alternatively, you can click on another question within the module without stopping delivery of the Slide question. If you select **Deliver** for the new question, it will replace the slide question with the new question. If you return to the Slide question later, it will resume showing slides from where you left off.

7. If you would like to resume showing slides, repeat steps 4 and 5.

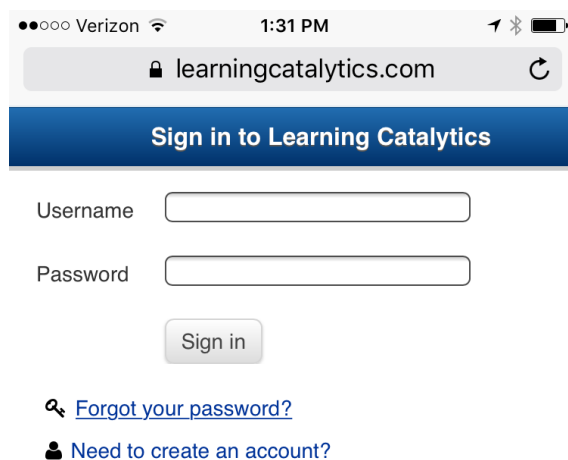
The presentation remains exactly where you left off, and you can proceed forward or backward as you wish. Show as many slides as you like before delivering another question. And pose as many questions as you want before returning to slides. No need to leave Learning Catalytics! It all happens in one place.

Display a PowerPoint Presentation during an Instructor-Led Synchronous Module from a Device

The Slide question type lets you display a PowerPoint slide in Learning Catalytics without expecting responses from students on their devices. Now you can also show a presentation with multiple slides, without having to switch out of Learning Catalytics.

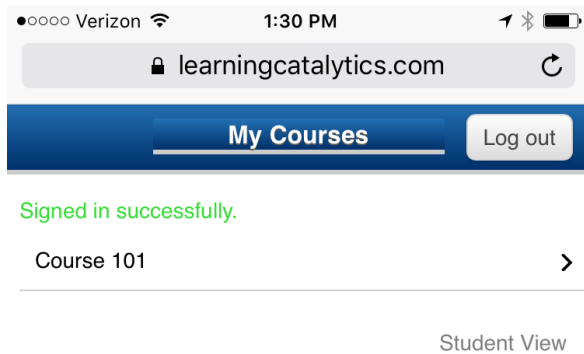
You deliver a Slide question much as you do any other question:


1. Using your mobile device, go to learningcatalytics.com.
2. Supply your Pearson Username and Password.

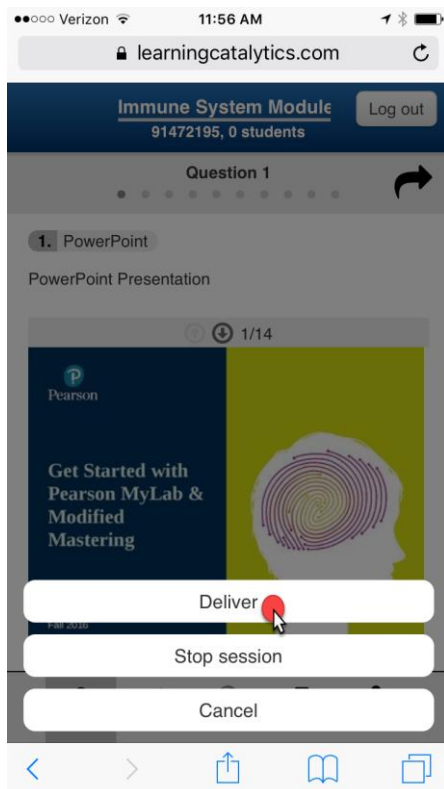





The screenshot shows a mobile browser interface. At the top, the status bar displays 'Verizon', signal strength, time '1:31 PM', and battery level. The address bar shows 'learningcatalytics.com' with a lock icon and a refresh button. Below the address bar is a blue button labeled 'Sign in to Learning Catalytics'. Underneath this button are two input fields: 'Username' and 'Password'. Below the password field is a 'Sign in' button. At the bottom, there are two links: 'Forgot your password?' with a magnifying glass icon and 'Need to create an account?' with a person icon.

3. After you sign in, you see your courses listed. Select a course to see the list of modules in that course.



4. Swipe left or right until you see the Slide question on your device.
5. Tap  and select **Deliver**.



6. To move to another slide, tap  (back) or  (forward).
7. At any point, you can swipe left or right to select a different question to deliver.
8. Tap  and select **Deliver** to pose the question to students.

9. When you're ready to resume showing slides, repeat steps 4 and 5.

The presentation remains exactly where you left off, and you can proceed forward or backward as you wish. Show as many slides as you like before delivering another question. And pose as many questions as you want before returning to slides. No need to leave Learning Catalytics! It all happens in one place.

MODULE 6: TEAM-BASED ASSESSMENT RESPONSE TYPE



Video: [Team-Based Assessment](#)

Learning Catalytics can be utilized for Team-Based Assessment by selecting **Team-Based Assessment** as the response type for any given module.

[My Courses](#) > [A&P 1](#) > [Create Module](#)

Create Module

Give the new module a name, a delivery date, and select a response type.

Name*

The name of the module, as shown to students.

Date

The date is used for sorting modules within the table on the course page (enter as YYYY-MM-DD or click to select date).

Response Type

Synchronous

Students respond individually to questions as they are delivered one at a time in class.

Self-Paced

Students respond individually to questions in any order, typically outside of class.

Self-Test

Students respond individually to questions in any order and receive feedback on each of their responses, typically outside of class.

Team-Based Assessment

Students respond individually to all questions in the module, and then gather in their groups and respond as a team to the same questions.

[Save and Continue](#)

Selecting Team-Based will allow students to respond individually to all of the questions in a given module in any order. They will then gather into their groups and respond as a team to the same questions. Before delivering a module, the instructor will select the settings that will be applied to the grading of the module.

Settings

Name*

Enzyme Quiz

The name of the module, as shown to students.

Date

2014-06-16

The date is used for sorting modules within the table on the course page (enter as YYYY-MM-DD or click to select date).

Response Type

Team-Based Assessment [Change response type](#)

Students respond individually to all questions in the module, and then gather in their groups and respond as a team to the same questions.

Group assignment

- ☒ Use the permanent groups from the course
☐ Let students assign themselves to new groups

Points

In the team round:

Answering correctly on attempt 1 is worth points

Answering correctly on attempt 2 is worth points

Answering correctly on attempt 3 is worth points

(Correct responses in the individual round are worth the maximum number of points.)

[Allow more attempts](#) [Allow fewer attempts](#)

Team weight

Final score = 50% individual score + 50% team score

Score based solely on individual work

Responses in each round receive separate grades; for example, credit-bearing responses on two rounds of a three-point question would result in six points overall.

Score based solely on team work

☐ Hide sessions for this module from students

If checked, do not show active sessions for this module in the list of active sessions students see when they log on.

☐ Do not allow students to review their performance on this module

If checked, do not show sessions for this module in the list of older sessions that students can review within Learning Catalytics.

Gradebook Transfer

☒ Send grade data to MasteringAandP course (A&P 1)

Points transfer as

☐ Make the above grade transfer settings the default for all new modules

Questions

The instructor must decide how grouping will be defined: permanent groups or allow students to assign themselves to groups.

Response Type **Team-Based Assessment** [Change response type](#)
Students respond individually to all questions in the module, and then gather in their groups and respond as a team to the same questions.

Group assignment

- ☒ Use the permanent groups from the course
- ☐ Let students assign themselves to new groups

Points

In the team round:

Answering correctly on attempt 1 is worth points

Answering correctly on attempt 2 is worth points

Answering correctly on attempt 3 is worth points

(Correct responses in the individual round are worth the maximum number of points.)

[+ Allow more attempts](#) [- Allow fewer attempts](#)

Team weight

Final score = 50% individual score + 50% team score

Score based solely on individual work Score based solely on team work

Responses in each round receive separate grades; for example, credit-bearing responses on two rounds of a three-point question would result in six points overall.

☐ Hide sessions for this module from students
If checked, do not show active sessions for this module in the list of active sessions students see when they log on.

☐ Do not allow students to review their performance on this module
If checked, do not show sessions for this module in the list of older sessions that students can review within Learning Catalytics.

Gradebook Transfer ☒ Send grade data to MasteringAandP course (A&P 1)

Points transfer as

Students can be assigned into permanent groups within a Learning Catalytics course or they can assign themselves into groups. Creating student groups is easy once students have enrolled in your Learning Catalytics course. First, select **Groups** from the selection of settings in your course.

learning | catalytics Rebecca Orr | Collin College | Log out

Courses Questions Classrooms Tour Help Student view

[My Courses](#) > [Sample course](#)

[Create module](#) [Copy a module](#) [Settings](#) [Students](#) [Groups](#) [Gradebook](#) [Sharing](#) [Delete course](#)

Search:

Module	Type	Date	Results
Sample lecture	Synchronous	2014-01-09	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>

Showing 1 to 1 of 1 entries

ALWAYS LEARNING PEARSON

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Then drag and drop a student name from the list of enrolled students into the Group 1 box.

Create Student Groups

Use this tool to create permanent groups for team-based assessment modules. Drag students from the left to a box on the right to form a group.


Enrolled Students	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7
Miller, Patrick	Britt, Michael	Gray, Diane	Hingle, Daunne	Ouellette, Sara	Potter, Harry	Itin, Samuel	
Reynolds, Mary		Doo, Irene	Moore, Betsy	Halcomb, Jenn			
Riggs, Molly							
Rizzi, Jonathan							
Sieminski, Jessica							
Valentine, Kate							
young, nicole							

Save groups

Once a student is in the **Group 1** box, a second box will be generated titled **Group 2**. Continue to drag and drop student names into groups. Each time a name is added to an empty group box, and additional group will be generated by the system. When you have finished creating groups, select **Save Groups**.

In the team-based response format, students will be able to begin the individual round and answer all questions in the module once the instructor begins the session. When the instructor is ready to transition to the team round, the instructor will select **Begin team round**.

As students work in groups, they agree upon one response to submit for the team. To assist that process, they have access to all the responses their team members submitted during the Individual Round. Any student can click **Show my team's responses**.

 [Show my team's responses](#)

When a team member submits the team's answers, all team members see answer feedback. If you have enabled multiple attempts in the module settings, the team can submit another answer (generally for fewer points). A different person can

submit the next response, but teams need to remember to coordinate their input because each response to the same question is considered to be another attempt. The number of attempts allowed by the team will have been set by the instructor when the team based response was selected for the module. See an example below.

Points

In the team round:

Answering correctly on attempt 1 is worth points

Answering correctly on attempt 2 is worth points

Answering correctly on attempt 3 is worth points

(Correct responses in the individual round are worth the maximum number of points.)

[+ Allow more attempts](#) [- Allow fewer attempts](#)

The instructor can designate the number of attempts as well as the value of each attempt on a module-by-module basis.

The final score for each student completing a Team-Based module depends on the weighting of the scores of the individual vs. team based.

Weighting

Final score = 50% individual score + 50% team score

Score based solely on individual work Score based solely on team work

☐ Hide sessions for this module from students
If checked, do not show active sessions for this module in the list of active sessions students see when they log on.

☐ Do not allow students to review their performance on this module
If checked, do not show sessions for this module in the list of older sessions that students can review.

The default final score is calculated as 50% individual score/50% team score. An instructor can modify this to meet their needs by sliding the selector to the left (increasing the value of the individual score) or the right (increasing the value of the team score).

Best Practices: Team-Based Assessments

- It takes time for groups to evolve into effective teams. If you don't use permanent teams, the team development process must begin all over again each time you deliver a Team-Based module. To get the most benefit from

this modality, consider using your lab groups as a permanent team for example or consider the other suggestions from the [Team-Based Learning Collaborative](#) on how to form teams.

The Team-Based modality is modeled on the "Readiness Assurance Process" from Team-Based Learning Collaborative. The Team-Based Learning Collaborative has some advice on how to form teams including:

- Never use student-selected teams
 - Create diverse teams
 - Make the selection process transparent
- If you use temporary teams, students are prompted to join their teams before you can begin the Individual Round. Students enter a common team name to indicate to Learning Catalytics that they are on a team together. Temporary team formation works best if students are already in class together.
 - Realize that if you deliver the individual round in class, the environment will be similar to a testing setting, as students will be quietly working on their own. Very little interaction or opportunity for teaching will occur- although Team-Based assessments can also be used for testing purposes where it might be essential to have students present in the room for both rounds.

If you are concerned with the individual round taking up too much class time, consider delivering the individual round as homework. Use class time to deliver the team round. This will allow students to engage in discussion with each other about problems that may have been encountered in the individual round. This will also allow the instructor to listen to students justify their answer, and address misconceptions as needed. Note that if you don't use permanent teams, students need to join their temporary team before you can begin the individual round. If you do deliver the individual round as homework, you will want to either use permanent teams or have students figure out their temporary team prior to delivery of the Individual Round.

MODULE 7: SELF-PACED AND SELF-TEST RESPONSE TYPES

Two kinds of modules are well suited for individual work outside of class. However, they can both be used during class as well.

How and when might you want to use this response type?

- Homework outside of class (where for example you want them to do it in a certain window like a pre-lecture assignment, but not allow them to see answers/feedback so you can cover the most difficult questions the following lecture).
- If you have a snow day, you can copy the Instructor-Led Synchronous module you planned to deliver that day and assign it as a Self-Paced module.
- In class quizzes (when you don't want to group students or allow them to see answers/feedback).

How does it work?

In this response type, students have access to the full set of questions when they begin, and can answer them at their own pace and in any order. This can be used in class for quizzes or worksheets. The instructor can also specify a window of time for the module to be available, so it also works well outside of the classroom (e.g., for a homework assignment).

For in-class quizzes, instructors can view student responses to automatically scored questions on the seat map if their Learning Catalytics course is associated with a seat map to gauge how well students have understood the material.

Instructors can set a Start at and End at time. For an in-class quiz, this would be the time when the questions are no longer available to students. Thus, the Start at and End at values can serve as a start and stop timer for all students at once. Outside of class, these values should span a longer, more flexible period (1 or more days, perhaps) during which students can work at a time that suits them, but must finish by a deadline. This deadline isn't visible to students, so instructors should tell them about it.

Both in class and outside of class, students can access and change their responses at any time up until the session is stopped—either manually, when the instructor clicks the Stop Session button, or automatically, based on the End at value.

Students do not see answers/feedback during the session. If instructors want students to review responses and correct answers, they can allow students to review the module after the session has ended.

Self-Test

How and when might you want to use this modality?

- Online homework or practice tests where you want students to see answers/feedback immediately.
- You can clone another module response type such as an Instructor-Led Synchronous Module or Team-Based Assessment so students can practice outside of class with immediate feedback.
- Use Self-Test in class as a way to differentiate instruction. For example: When teaching a particular topic where students would find themselves at much different skill levels (some students still needing much practice on the basics and others deathly bored by the basics right away and in need of much more of a challenges), then create a Self-Test module with questions of increasing difficulty, and open it up to students. Tell them that the easy questions are at the front, harder questions at the end, and tell them they can start anywhere they choose. Then the instructor view reflects real-time performance so you can see both what problems students are attempting and what the common errors are on each one. Also students are working independently so you have time to walk around and help students individually as needed.
- Self-Test, unlike Self-Paced, allows students to receive feedback as they submit answers to each question. Further, this option allows the instructor the option of permitting students to answer questions as many times as they wish. Only the last response will be recorded.

How does it work?

This response type is identical to Self-Paced, except that students will receive right/wrong feedback on their response immediately after submitting it. Students will also have the opportunity to read the answer explanation after responding to a question. Like Self-Paced, instructors can set a Start at and End at time for a session.

Tips

- For both of Self-Paced and Self-Test module types you can optionally set a **Start at** time and a **Duration** for starting and ending the session automatically.
- Unless you have established a **Start at** time, you must manually start a session for the module.
- If you want students to be able to review responses in these modules, and if you have not established an automatic stop time, then be sure to click **Stop Session** to allow students to review their responses and the correct answers for questions.

MODULE 8: AUTOMATED SYNCHRONOUS RESPONSE TYPE

NEW This new kind of delivery gives students in completely asynchronous online courses options for participating in a Learning Catalytics session simultaneously with other students who are taking the same course. You specify multiple time slots for participation, and students sign in for a session that is convenient for them.

You don't need to be present for these sessions—Learning Catalytics takes it from there.

During each session, Learning Catalytics uses automatic pacing to deliver each question in an automated fashion (based on your predetermined sequence and timing settings), and it determines whether the participants would benefit from peer discussion of each question, based on their responses. (You set the grouping thresholds in advance in course settings.)

If a discussion is warranted, Learning Catalytics automatically places students into chat sessions for groups of concurrent participants. Students benefit from articulating why they answered as they did, and then the question is delivered again for them to answer in a second round. Note that you do not have the ability to review the chat sessions. Students take part in them, but there is not a way for you to see what was discussed in the chat after the session.

Pacing based on student response times

Some questions require more response time than others, and Learning Catalytics dynamically adjusts the time available based on the pace of student responses.

1:43

When a question first becomes available, Learning Catalytics displays an elapsed-time ("count up") timer for students. Learning Catalytics watches how quickly responses come in, and predicts how much additional time is needed for the vast majority of students to respond.


0:44 left


At that point, the "count up" timer switches to a "count down" timer that displays the remaining time.

Note: Students see these timers on their devices in Automated Synchronous sessions

Intelligent grouping and redelivery

When time for a question expires, Learning Catalytics uses the percentage of students who responded correctly in Round 1 to determine whether the class would benefit from peer instruction by discussing the question in small groups.

If less than 30% or more than 70% of students responded correctly, students see the results graph as if you had selected  **Show all results**.

If between 30% and 70% of students responded correctly, students are automatically placed into groups, as if you had selected  **Assign Groups**. Students discuss their responses via an online chat and then respond to Round 2 of the same question, with smart "count up" and "count down" timers appearing again. After Round 2, students see the results graph, regardless of response percentages. The 30% and 70% default thresholds are recommended, but you can adjust these values and other grouping settings in course Settings.

Create an Automated Synchronous Module

Click **Create Module**.

[My Courses](#) > **Anatomy and Physiology I**



Name your module, select a date, and select **Automated Synchronous**. Click **Save and Continue**.

Create Module
Give the new module a name, a delivery date, and select a response type.

Name*
The name of the module, as shown to students.

Date
The date is used for sorting modules within the table on the course page (enter as YYYY-MM-DD or click to select date).

Response type

Instructor-Led Synchronous Students respond individually to questions as they are delivered one at a time, typically in class or online with an instructor present.	Automated Synchronous Students respond individually to questions as they are delivered one at a time in an automated format, typically out of class at a set time when an instructor is not present.	Self-Paced Students respond individually to questions in any order, typically outside of class.	Self-Test Students respond individually to questions in any order and receive feedback on each of their responses, typically outside of class.	Team-Based Assessment Students respond individually to all questions in the module, and then gather in their groups and respond as a team to the same questions.
---	--	---	--	--

You see a settings page where you can set start times, maximum time to answer questions, and participation weight. Make your selections and add questions to the module.

Note: You can only add scorable questions to an Automated Synchronous module. If you try to add questions that are not scorable, then you be asked by the system to remove them before beginning the session.

Once you finished, click **Save and Finish**.

Settings

Name*

The name of the module, as shown to students.

Date

The date is used for sorting modules within the table on the course page (enter as YYYY-MM-DD or click to select date).

Response type **Automated Synchronous** [Change response type](#)

Students respond individually to questions as they are delivered one at a time in an automated format, typically out of class at a set time when an instructor is not present.

Start times [+ Add start time](#)

Sessions will automatically begin at these times. Do not schedule the sessions to be too close together to ensure that they will not be overlapping. An active session will end automatically if it is time for another session to begin.

☐ Hide sessions for this module from students

If checked, do not show active sessions for this module in the list of active sessions students see when they log on.

Start first question after* seconds

The amount of time students have to join the session before the first question is delivered.

Maximum time to answer a question* seconds

The maximum amount of time students will be given to answer each question. Learning Catalytics' automatic pacing will automatically shorten this time limit if students are responding more quickly.

Present correct answer for* seconds before next question

The amount of time students are given to review correct answers between questions.

Participation weight **Final score = 100% Correctness + 0% Participation**

Students receive credit only for correct responses

Responses in each round receive separate grades; for example, credit-bearing responses on two rounds of a three-point question would result in six points overall.

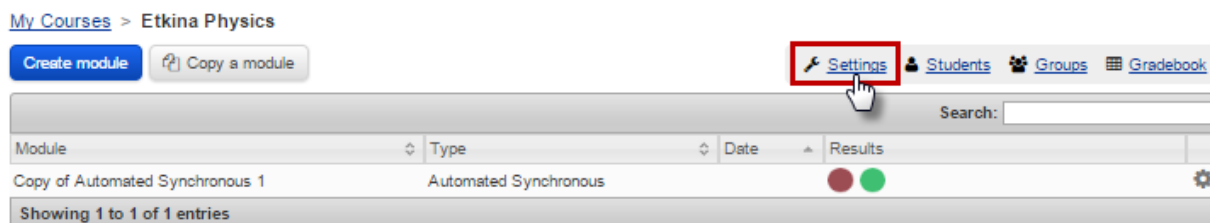
Students receive credit for any response

☐ Do not allow students to review their performance on this module

If checked, do not show sessions for this module in the list of older sessions that students can review within Learning Catalytics.

Edit Automatic Pacing Settings

1. To edit the automatic pacing settings for your course, click **Settings**.



2. Make your selections for the Automatic Synchronous grouping settings under **Default Grouping Settings** and click **Save**. It is recommended to try the default settings as these are based on research on peer instruction. For more information, see [Eric Mazur's publications at the Mazur Group](#).

General Information

Classroom + [Create new classroom](#)
The seating map for the classroom where the course will be taught.

Settings

Allow review after hours
Allow students to review all of the questions and answers in your delivered modules after this much time has elapsed since the start of the session.

☐ Enable "I don't understand" button and real-time graph
If checked, students will have access to a button at all times where they can indicate when they are understanding or not.

☐ Enable automatic pacing
If checked, Learning Catalytics will automatically manage the timing of question delivery, and automatically group students based on question results. (We recommend that new users keep this feature turned off initially.)

Default Grouping Settings

These settings apply to both Automated Synchronous modules and Instructor-Led Synchronous modules when automatic pacing is turned on.

Lower bound for grouping
e.g., 30 for 30%

Upper bound for grouping
e.g., 70 for 70%

Default group size
Students should be placed into groups of size...

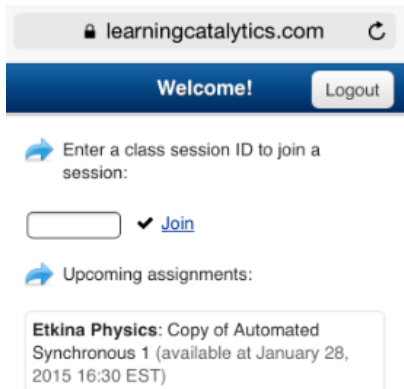
Default group indicator
Group students based on their...

Default group comparison
Group students when the indicators (above) are...

Default group tolerance
Only group students that are sitting...

Student Experience

1. Students sign in and see the Automated Synchronous assignment as an upcoming assignment until it is available based on your start time in the settings.



learningcatalytics.com

Welcome! Logout

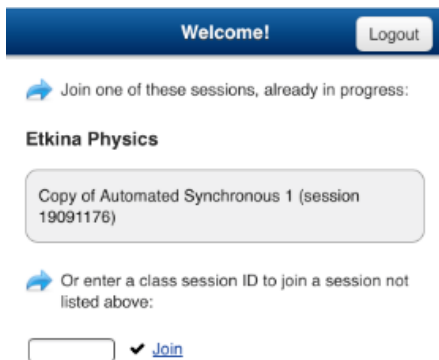
Enter a class session ID to join a session:

[Join](#)

Upcoming assignments:

Etkina Physics: Copy of Automated Synchronous 1 (available at January 28, 2015 16:30 EST)

2. Once the session is available, student click the session title.



Welcome! Logout

Join one of these sessions, already in progress:

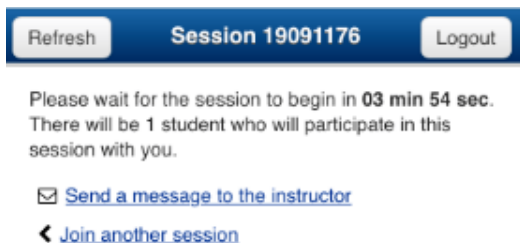
Etkina Physics

Copy of Automated Synchronous 1 (session 19091176)

Or enter a class session ID to join a session not listed above:

[Join](#)

3. They see a countdown timer until the session begins. The system also lets them know how many other students are in the session as well. Students can also send a message to the instructor at any time during the session.



Refresh Session 19091176 Logout

Please wait for the session to begin in **03 min 54 sec**.
There will be 1 student who will participate in this session with you.

[Send a message to the instructor](#)

[Join another session](#)

4. Students are presented with a question. They click **Submit Response** to submit an answer. They can see how much time they have left in the countdown timer.

Refresh

Session 19091176

Logout

region question

0:33 left

Select the cell that assists the immune defense against parasites and plays a role in asthma and allergies.

Your response:



Hide response

Change response

Send a message to the instructor

Join another session

5. Once their time runs up, they may be grouped (automatically), depending upon their answers and your settings for [automatic pacing](#). If they are grouped, then they are told who to discuss the response with.

Refresh

Session 19091176

Logout

region question

0:02

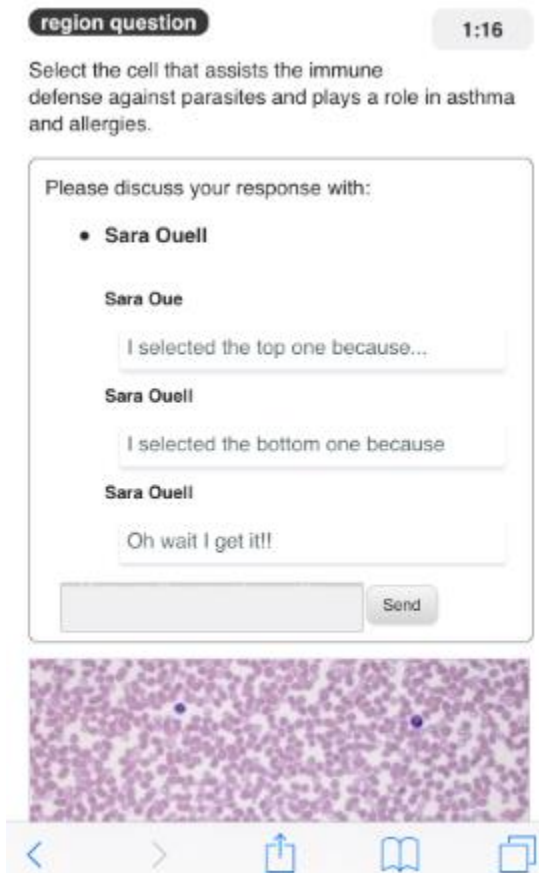
Select the cell that assists the immune defense against parasites and plays a role in asthma and allergies.

Please discuss your response with:

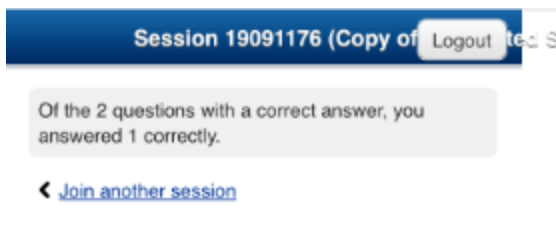
- Sara Ouell

Send

6. They can chat for a specific amount of time before they select their response to the second round (same question prior to their discussion). The goal of the Automatic Synchronous modality is to promote peer instructor outside of the classroom.



7. At the end of the session, they can see a brief summary of their results.



MODULE 5: RESULTS AND SCORES IN LEARNING CATALYTICS

The following topics discuss how you can assess class-wide and individual student performance in Learning Catalytics sessions. If you decide to score student performance, these topics also describe how scoring works and how you can use scores:

[Scores in Learning Catalytics](#)

[Review results for a session](#)

[Download or transfer grades](#)

Scores in Learning Catalytics

Scoring options are the same for both Synchronous modalities and the Self-Paced modality, and similar for Self-Test modality. The Team-Based modality uses an entirely different scheme, for which you set different options. The tips below apply to all modalities except the Team-Based modality. For information about the Team-Based modality, refer to the lesson covering it.



Video: [Working with Learning Catalytics Scores](#)

Best Practices: Scoring

- **Scoring preferences are decided by module.** For each module, you can award points for participation only, correctness only, or proportionally for both. By default, it is set to score based on correctness only. The slider allows you to adjust the setting.

Tip: If you want to promote open discussion during peer instruction for a Synchronous session, it is suggested to give credit primarily or completely based on participation so that students are not too worried about answering questions incorrectly.

- **You can set a different point value for each question in a Synchronous, Self-Paced, or Self-Test module.** By default, questions have either a 1 or 0 point value. Automatically scored questions have 1 point value by default and questions that are not automatically scored have a 0 point value by default. See this [table](#) for helpful details about automatic and manual scoring.
- **If you give points for a question that is not automatically scored and you provide credit for correctness, you need to manually mark answers correct or incorrect.** A student receives the number of points you set for that question when you mark a response as correct. If time isn't available to mark these questions individually, you can change the point value back to 0 at any time before or after delivery of the module.
- **If you add points to questions in a module that are not automatically scored (such as sketch or word cloud questions), consider providing credit for participation only.** This way, you don't have to mark the answer correct or incorrect.
- **Point values you assign are saved with the *module*, not with the question itself.** If you select the same question from the Question Library for a different module, its value defaults to 1 or 0.
- **If you copy a module, the saved point values are preserved in the new module.** You can always change point values in the original module or a copied module.
- **Any edits to a Learning Catalytics module's scoring parameters always affect scores for *all sessions* of that module, even those that *have already been delivered* in the same Learning Catalytics course.** If you don't want to affect scores for sessions already delivered, consider cloning the module within the course. Doing so lets you deliver the same content using separate modules.
- **If you edit a score in the Learning Catalytics gradebook, the score is a fixed value that overrides the module's scoring settings.**

For example:

1. You edit points in the Learning Catalytics gradebook for a student and you change the points earned for the module from 5 to 10 points. At this time, the total possible points are 10 for this particular module. This student now has 10 of 10 possible points for this module.
2. You decide to give more points for a question within a module for the entire class. You edit points in a module for a question. You change the points for a particular question in the module from 2 to 4. Now, the total possible points for the module is 12.
3. The grade for the student in the gradebook remains 10. Therefore, you changed the total possible points, but the student's score is a fixed value, which is now 10 out of 12 points. To correct this, you would have to adjust the student's score again to 12 so that the student now has 12 out of 12 points. As a result, if you want to change student scores because of a policy or other global change on a question or module level, it is preferable to edit the question or module settings as those changes will automatically update all student scores. Reserve the step of editing a student's score in the gradebook directly for situations where a student completed an assignment in an alternate way or did makeup work.



Review Session Results

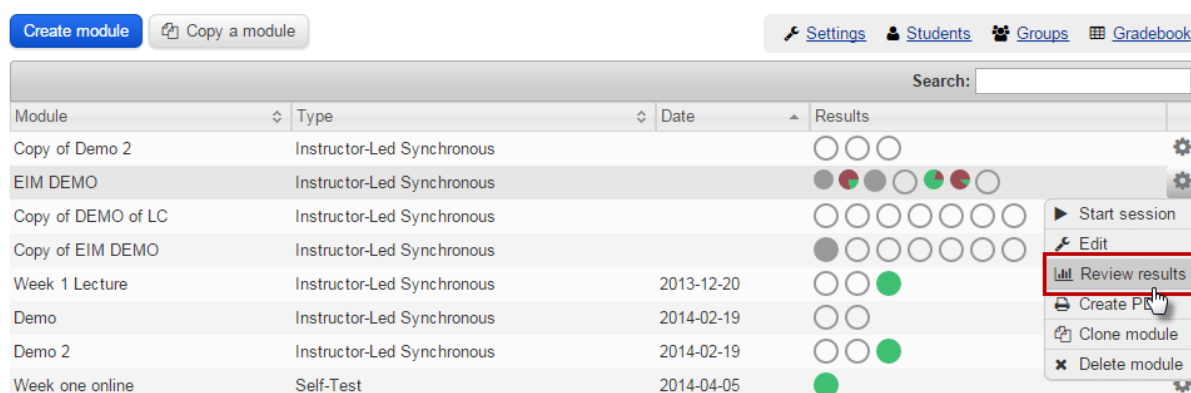
To review the results for the most recent session for a module, follow the steps provided below.

Note: If you have delivered the module previously (in a prior session), earlier results are no longer visible graphically in the list of modules for the course. You can, however, select each session to see its results, as described below.

To preserve the graphical display for each session, clone the module so you can deliver a different, but identical, copy of the module content for each section of a course.

Step-by-Step Directions: Review session results

4. From your **My Courses** list, click the name of a course to display all the modules you have created for the course.
5. In the row for a module that you have delivered, click , and then click  **Review results**.



Module	Type	Date	Results
Copy of Demo 2	Instructor-Led Synchronous		
EIM DEMO	Instructor-Led Synchronous		
Copy of DEMO of LC	Instructor-Led Synchronous		
Copy of EIM DEMO	Instructor-Led Synchronous		
Week 1 Lecture	Instructor-Led Synchronous	2013-12-20	
Demo	Instructor-Led Synchronous	2014-02-19	
Demo 2	Instructor-Led Synchronous	2014-02-19	
Week one online	Self-Test	2014-04-05	

Alternatively, you can point your mouse over the graphical display to see the question and to click into the results of a specific question. If you have delivered the module previously (in a prior session), earlier results are no longer visible graphically in the list of modules for the course.

If you see a mostly red graphical display, most of the student answers were incorrect. If you see mostly green, most of the answers were correct. A grey graphical display means the scores have not yet been marked incorrect or correct because the [question was not scored automatically](#).

6. If you have delivered the module *more than once*, click the session you want to review. If you didn't deliver the session more than once, you are brought directly to the session results.

[My Courses](#) > [Anatomy and Physiology I](#) > [EIM DEMO](#) > **Review results**

Show 10 entries					Search:
ID	Started at	Students	Status		
21991867	2014-05-05 13:01:58 -0400	15	completed	⚙	
19707079	2014-05-05 12:00:24 -0400	0	completed	⚙	
83997937	2014-05-05 11:35:34 -0400	2	completed	⚙	
25925042	2014-05-05 11:24:21 -0400	3	completed	⚙	
54609616	2014-05-05 11:10:36 -0400	2	completed	⚙	
Showing 1 to 5 of 5 entries					

You can distinguish sessions by the session ID in the **ID** column, and start time in the **Started at** column. You can sort sessions by any column in the table by clicking ↕ next to any column head.

In each session row, you can also click ⚙, and then click **x Delete data** to delete the results from any session, such as a session you opened as a test or by mistake.

[My Courses](#) > [Anatomy and Physiology I](#) > [EIM DEMO](#) > **Review results**

Show 10 entries					Search:
ID	Started at	Students	Status		
21991867	2014-05-05 13:01:58 -0400	15	completed	⚙	
19707079	2014-05-05 12:00:24 -0400	0	completed	⚙	
83997937	2014-05-05 11:35:34 -0400	2	completed	x Delete data	
25925042	2014-05-05 11:24:21 -0400	3	completed	⚙	
54609616	2014-05-05 11:10:36 -0400	2	completed	⚙	
Showing 1 to 5 of 5 entries					

7. As you are reviewing the session, you can display results for each question in the session and see the responses of each student (by name) for that question.



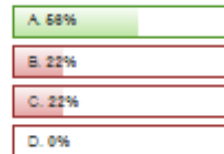
(2) multiple choice

Which of the following would be a warning sign that a volcano might erupt in the near future?

- A. An increase in the number of earthquakes near the volcano
- B. A decrease in the size of the volcano cone
- C. A decrease in the ground temperature surrounding the volcano
- D. A constant amount of gas being emitted from vents near the volcano

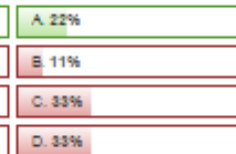
Round 1

9 responses, 56% correct



Round 2

9 responses, 22% correct



Student	Round 1	Round 2
Bitt, Michael	C (2.00 points) Revert to previous attempt ✓ Mark correct (2 points) Comment	D (2.00 points) Revert to previous attempt ✓ Mark correct (2 points) Comment
Gray, Diane	A (2.00 points) Revert to previous attempt ✗ Mark incorrect (0 points) Comment	C (2.00 points) Revert to previous attempt ✓ Mark correct (2 points) Comment
Itin, Samuel	A (2.00 points) Revert to previous attempt ✗ Mark incorrect (0 points) Comment	
Miller, Patrick		D (2.00 points) Revert to previous attempt ✓ Mark correct (2 points) Comment
Ouellette, Sara	B (2.00 points) Revert to previous attempt ✓ Mark correct (2 points) Comment	D (2.00 points) Revert to previous attempt ✓ Mark correct (2 points) Comment
Reynolds, Mary	C (2.00 points) Revert to previous attempt ✓ Mark correct (2 points) Comment	A (2.00 points) Revert to previous attempt ✗ Mark incorrect (0 points) Comment
Riggs, Molly	A (2.00 points) Revert to previous attempt ✗ Mark incorrect (0 points) Comment	
Rizzi, Jonathan	A (2.00 points) Revert to previous attempt ✗ Mark incorrect (0 points) Comment	A (2.00 points) Revert to previous attempt ✗ Mark incorrect (0 points) Comment
Seminski, Jessica		B (2.00 points) Revert to previous attempt ✓ Mark correct (2 points) Comment
Valentine, Kate	A (2.00 points) Revert to previous attempt ✗ Mark incorrect (0 points) Comment	C (2.00 points) Revert to previous attempt ✓ Mark correct (2 points) Comment

Showing 1 to 10 of 11 entries

✓ Mark all as correct ✗ Mark all as incorrect

- For each student's response, the background color indicates whether Learning Catalytics evaluated the response as **Correct** (green background). Depending on the question format, a red background might mean the student's answer was **Incorrect**, or it might mean that the response is marked Incorrect because it cannot be automatically scored by Learning Catalytics.






You can always click **Correct** or **Incorrect** to manually grade a response and change the score associated with it, and you can click **Comment** to provide individualized feedback for the student. Students see these comments when they click **Review older class sessions** from their home page.

NEW For Team-Based sessions, you also have the ability to click **Revert to previous attempt** for a Team Round response that another student submitted by mistake.

- On this page, you can also select the following:

Download results for the session in different formats.

[My Courses](#) > [Anatomy and Physiology I](#) > [EIM DEMO](#) > **Session 21991867**

 [Download results](#)  [Attendance information](#)  [Messages](#)  [Resend grades](#)  [Delete data](#)

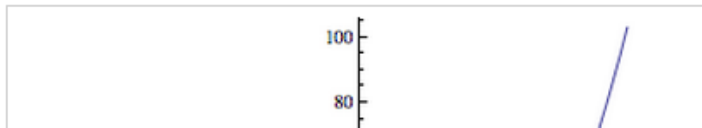
[Summary format \(tallied scores for each student\)](#)


1 2 3 4 5 **6** 7


[Long format \(separate rows for each student and question\)](#)

[Wide format \(one row per student; each question in different columns\)](#)




Draw an arrow pointing in the positive x direction that is tangent to this graph at $x = 1$.





 **Attendance information**, where you can also manually add a record of a student's attendance; for example, if you want to keep track of students that attended class but did not log into Learning Catalytics that day.


 **Messages**, to see a sortable list of messages sent by students during the session. From there you can click the linked name of a student to see his or her performance in Learning Catalytics sessions, and mark messages as being read.

[My Courses](#) > [Anatomy and Physiology I](#) > [EIM DEMO](#) > [Session 21991867](#) > **Messages sent to instructor**

Show 25 entries		Search:	
Student	Message	Sent at	Marked read at
Valentine, Kate	this quiz is too hard	2014-05-05 13:08:36 -0400	never marked read  Mark as read
Gray, Diane	help!!!!!!	2014-05-05 13:08:43 -0400	never marked read  Mark as read
young, nicole	this is cool.	2014-05-05 13:09:07 -0400	never marked read  Mark as read
Showing 1 to 3 of 3 entries			


On the performance page for any student, you can click other links that let you send email to the selected student, or view the performance for other students.

 [Previous student \(Kevin Patrick\)](#)  [Next student \(Richard Williams\)](#) [Email this student](#)

 **Delete data** to remove this session from your records. Do this only for a session you opened as a test or by mistake.

Download or Transfer Learning Catalytics Scores

Download Scores and Results

From the Learning Catalytics Gradebook, you can click  **Download** to save a .csv file that contains the Gradebook data. You can open that file in a spreadsheet application to filter, sort, and analyze student scores.


















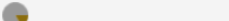

[My Courses](#) > [A&P Demo Gradebook](#) > **Gradebook**






In addition, you can download more detailed reports from the module. Click **Review Results**.

[Create module](#) [Copy module from...](#)

Search:

Module	Type	Date	Results	
Diffusion, Osmosis, and Membrane Transport 2	Instructor-Led Synchronous			
Diffusion, Osmosis, and Membrane Transport 3	Self-Test			
Signal Transduction	Instructor-Led Synchronous			
Chemistry and the Basics of Life	Team-Based Assessment	2014-01-23		
Chemistry Part 2	Instructor-Led Synchronous	2014-02-05		<div> Start session</div> <div> Edit</div> <div> Review results</div> <div> Create PDF</div> <div> Copy module</div> <div> Delete module</div>
Water Part 1	Instructor-Led Synchronous	2014-02-05		
Water Part 2	Team-Based Assessment	2014-02-10		
Macromolecules	Self-Paced	2014-02-19		
Energy and Enzyme Kinetics	Team-Based Assessment	2014-02-24		
Energy/Enzyme Kinetics 2	Instructor-Led Synchronous	2014-02-24		

Click **Download Results** and select the format you'd like to export as a .csv file.

[Download results](#)  [Attendance information](#)  [Messages](#)  [Refresh](#)

Summary format (tallied scores for each student)

Long format (separate rows for each student and question)

Wide format (one row per student; each question in different columns)

Transfer Scores to Mastering or select MyLab Gradebooks

If you are using Learning Catalytics with a Pearson Mastering, Modified Mastering, or select MyLab course (math, statistics, economics, and business), you can now automatically transfer Learning Catalytics scores to the Mastering or MyLab Gradebook. Students can see their Learning Catalytics scores from their individual scores pages in Mastering or MyLab.

For details, visit online Help from your Mastering or MyLab course or refer to the product-specific Learning Catalytics Guides below.

Product	Product-specific Information
Learning Catalytics Standalone	Documentation
Learning Catalytics fully integrated: Mastering Modified Mastering	Quick Start Guide: Learning Catalytics for Mastering and Modified Mastering Documentation
Learning Catalytics fully integrated: MyMathLab MyStatLab	Quick Start Guide: Learning Catalytics for MyMathLab & MyStatLab Documentation
Learning Catalytics fully integrated: MyAccountingLab MyBCommLab MyBizLab MyBusinessLawLab MyCJLab MyEconLab MyEntrepreneurshipLab	Quick Start Guide: Learning Catalytics for Business and Criminal Justice MyLabs Documentation

MyFinanceLab MyManagementLab MyMarketingLab MyMISLab MyOMLab	
Learning Catalytics fully integrated with: MyFoundationsLab MyLiteratureLab MyNursingLab MyReadingLab MySkillsLab MyStudentSuccessLab MyWritingLab	Documentation

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