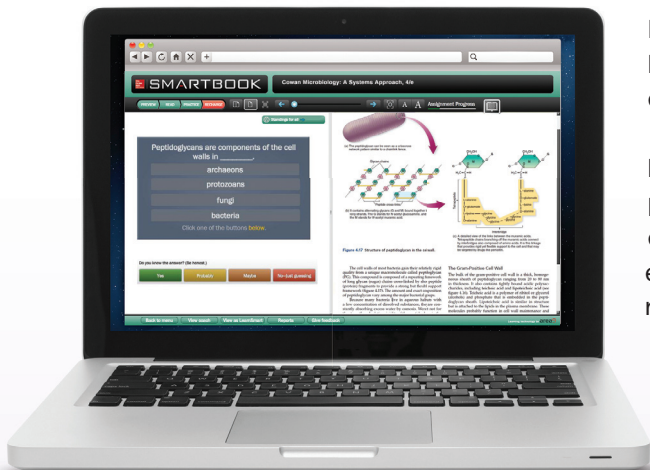
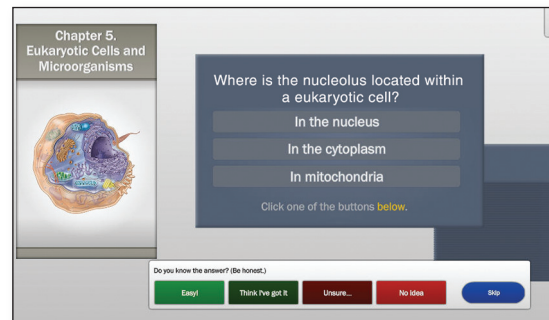


LearnSmart® is one of the most effective and successful adaptive learning resources available on the market today. More than 2 million students have answered more than 1.3 billion questions in LearnSmart since 2009, making it the most widely used and intelligent adaptive study tool that's proven to strengthen memory recall, keep students in class, and boost grades. Students using LearnSmart are 13% more likely to pass their classes, and 35% less likely to drop out.

LearnSmart continuously adapts to each student's needs by building an individual learning path so students study smarter and retain more knowledge. Turnkey reports provide valuable insight to instructors, so precious class time can be spent on higher-level concepts and discussion.

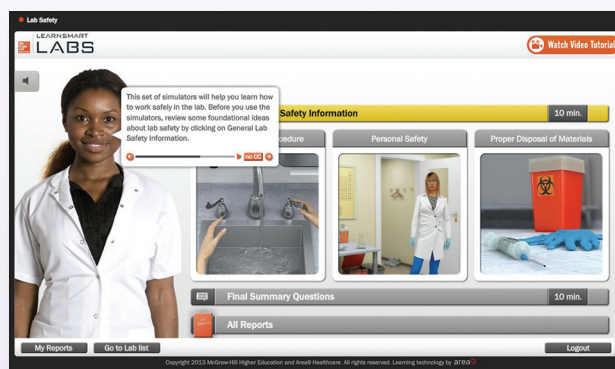


Fueled by LearnSmart—the most widely used and intelligent adaptive learning resource—**SmartBook™** is the first and only adaptive reading experience available today.

Distinguishing what a student knows from what they don't, and honing in on concepts they are most likely to forget, SmartBook personalizes content for each student in a continuously adapting reading experience. Reading is no longer a passive and linear experience, but an engaging and dynamic one where students are more likely to master and retain important concepts, coming to class better prepared.

As a result of the adaptive reading experience found in SmartBook, students are more likely to retain knowledge, stay in class, and get better grades.

LearnSmart Labs™ is a super-adaptive simulated lab experience that brings meaningful scientific exploration to students. Through a series of adaptive questions, LearnSmart Labs identifies a student's knowledge gaps and provides resources to quickly and efficiently close those gaps. Once the student has mastered the necessary basic skills and concepts, they engage in a highly realistic simulated lab experience that allows for mistakes and the execution of the scientific method.



LearnSmart Prep™ The primary goal of LearnSmart Prep is to help students who are unprepared to take college-level courses. Using super-adaptive technology, the program identifies what a student doesn't know, and then provides "teachable moments" designed to mimic the office hour experience. When combined with a personalized learning plan, an unprepared or struggling student has all the tools they need to quickly and effectively learn the foundational knowledge and skills necessary to be successful in a college-level course.

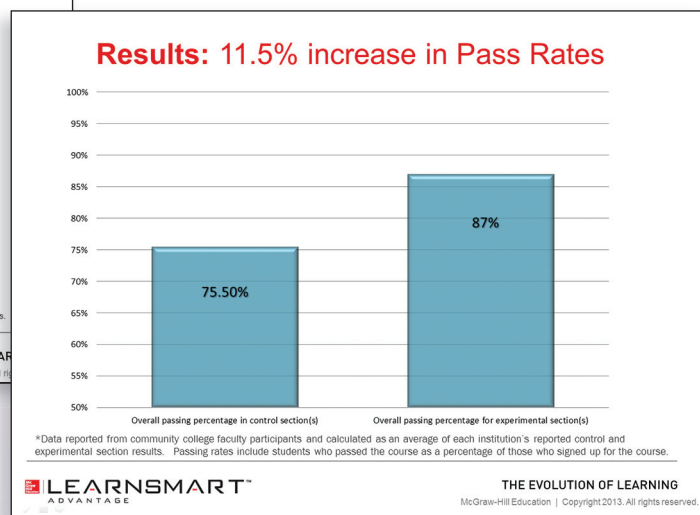
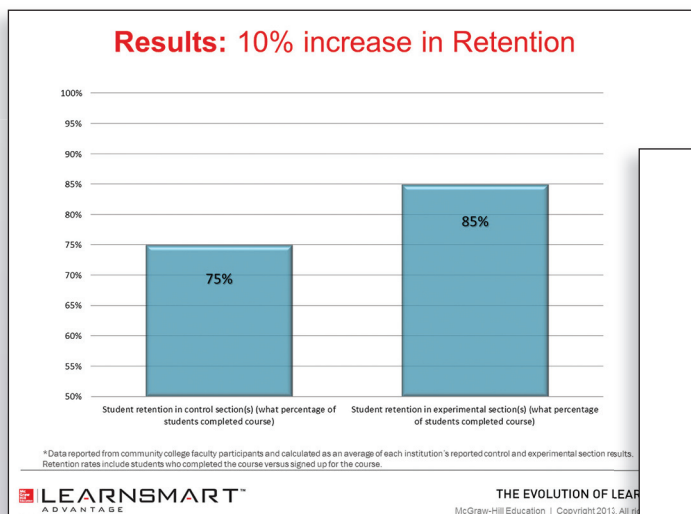
Digital efficacy study shows results!

Digital efficacy study final analysis shows students experience higher success rates when required to use LearnSmart.

- Passing rates increased by an average of **11.5%** across the schools and by a weighted average of **7%** across all students.
- Retention rates increased an average of **10%** across the schools and by a weighted average of **8%** across all students.

Study details:

- Included two state universities and four community colleges.
- Control sections assigned chapter assignments consisting of testbank questions and the experimental sections assigned LearnSmart, both through McGraw-Hill Connect®.
- Both types of assignments were counted as a portion of the grade, and all other course materials and assessments were consistent.
- 358 students opted into the LearnSmart sections and 332 into the sections where testbank questions were assigned.



"LearnSmart has helped me to understand exactly what concepts I do not yet understand. I feel like after I complete a module I have a deeper understanding of the material and a stronger base to then build on to apply the material to more challenging concepts."

—Student

"After collecting data for five semesters, including two 8-week intensive courses, the trend was very clear: students who used LearnSmart scored higher on exams and tended to achieve a letter grade higher than those who did not."

—Gabriel Guzman, Triton College

"LearnSmart is intuitive and analyzes where the students' strengths and weaknesses are and develops a strategy to properly tutor the student. Connect Microbiology gives the students examples of test questions in several different formats and provides other materials to help them study and review the chapters."

—Stephen Wagner, Stephen F. Austin State University

Connecting to Core Concepts

McGraw-Hill ConnectPlus® Microbiology



McGraw-Hill Connect Microbiology is a digital teaching and learning environment that saves students and instructors time while improving performance over a variety of critical outcomes.

- From in-site tutorials to tips and best practices, to live help from colleagues and specialists—you're never left alone to maximize Connect's potential.
- Instructors have access to a variety of resources including assignable and gradable interactive questions based on textbook images, case study activities, tutorial videos, and more.
- Digital images, PowerPoint slides, and instructor resources are also available through Connect.
- Digital Lecture Capture: Get Connected. Get McGraw-Hill Tegrity Campus™. Capture your lectures for students. Easy access outside of class anytime, anywhere, on just about any device.

Gather assessment information

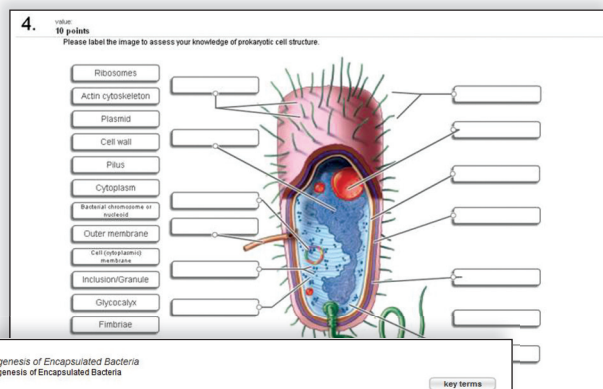
Generate powerful data related to student performance against Learning Outcomes, specific topics, level of difficulty, and more.

Visit www.mcgrawhillconnect.com.



Connect seamlessly integrates with every learning management system out there through McGraw-Hill

Campus, so you can easily combine your course resources into a single platform. Instructors and students benefit from universal single sign-on, automatic registration, and gradebook synchronization.



Case Study: Pathogenesis of Encapsulated Bacteria

Introduction

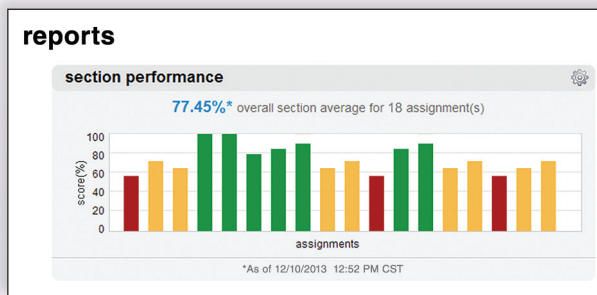
Read the overview below and complete the activities that follow.

Case Study: Pathogenesis of Encapsulated Bacteria

A 15-year-old girl was admitted to the hospital after presenting at the emergency room (ER) in a semiconscious state. Feeling ill was nothing new for this patient as she had a 9-year history of systemic lupus erythematosus (SLE), a condition the ER physicians took into account as they examined her. The patient's initial workup revealed abnormally rapid breathing, fever, and low blood pressure. Additionally, her fingers and toes were cold, and she was producing no urine. The ER staff took samples of her blood and cerebrospinal fluid (CSF) and found bacteria in both. Because of the patient's history of SLE, magnetic resonance imaging (MRI) of the abdomen was performed to assess the condition of her organs. The MRI revealed that the lupus had led to the complete destruction of the patient's spleen, a complication called "autosplenectomy" that occurs in approximately 5% of SLE cases. An MRI indicated that the SLE patient's spleen was no longer functioning—in other words, she was "asplenic." Asplenic individuals have low levels of both immunoglobulin M (a type of antibody) and memory B cells (a type of immune system cell that produces antibodies). Therefore, these patients are at much greater risk of infection by encapsulated

start activities ▶


reports



"The clear explanation of complex topics with adequate graphic resources (in text and online) are its greatest strength. This is really enhanced with the Connect and LearnSmart materials. The online materials are the best available."

— Clifton Franklund, Ferris State University

Self-study resources are also available at www.mhhe.com/cowan4e.



Unique Interactive Question Types in Connect Tagged to ASM's Curriculum Guidelines for Undergraduate Microbiology

- 1 Case Study:** Case studies come to life in a learning activity that is interactive, self-grading, and assessable. The integration of the cases with videos and animations adds depth to the content, and the use of integrated questions forces students to stop, think, and evaluate their understanding. Pre- and post-testing allow instructors and students to assess their overall comprehension of the activity.
- 2 Concept Maps:** Concept maps allow students to manipulate terms in a hands-on manner in order to assess their understanding of chapter-wide topics. Students become actively engaged and are given immediate feedback, enhancing their understanding of important concepts within each chapter.
- 3 What's the Diagnosis:** Specifically designed for the disease chapters of the text, this is an integrated learning experience designed to assess the student's ability to utilize information learned in the preceding chapters to successfully culture, identify, and treat a disease-causing microbe in a simulated patient scenario. This question type is true experiential learning and allows the students to think critically through a real-life clinical situation.
- 4 Animations:** Animation quizzes pair our high-quality animations with questions designed to probe student understanding of the illustrated concepts.
- 5 Tutorial Animation Learning Modules:** Making use of McGraw-Hill's collection of videos and animations, this question type presents an interactive, self-grading, and assessable activity. Pre- and post-testing is used to assess shifts in student comprehension. Integrated questions force students to stop, think, and evaluate their understanding of the process being presented. These tutorials take a stand-alone, static animation and turn it into an interactive learning experience for your students with real-time remediation.
- 6 Labeling:** Using the high-quality art from the textbook, check your students' visual understanding as they practice interpreting figures and learning structures and relationships. Easily edit or remove any label you wish!
- 7 Classification:** Ask students to organize concepts or structures into categories by placing them in the correct "bucket."
- 8 Sequencing:** Challenge students to place the steps of a complex process in the correct order.
- 9 Composition:** Fill in the blanks to practice vocabulary, and then reorder the sentences to form a logical paragraph (these exercises may qualify as "writing across the curriculum" activities!).

All McGraw-Hill ConnectPlus content is tagged to Learning Outcomes for each chapter as well as topic, section, Bloom's Level, and ASM Curriculum Guidelines to assist you in customizing assignments and in reporting on your students' performance against these points. This will enhance your ability to assess student learning in your courses by allowing you to align your learning activities to peer-reviewed standards from an international organization.

INSTRUCTORS

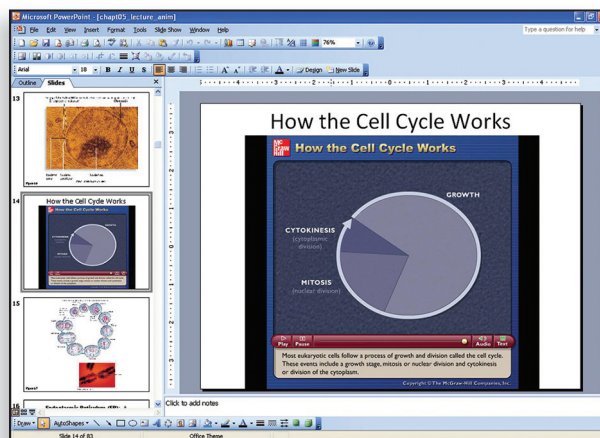
Presentation and Lecture Capture Tools

Presentation Tools Allow You to Customize Your Lectures

Enhanced Lecture Presentations contain lecture outlines, art, photos, tables, and animations embedded where appropriate. Fully customizable, but complete and ready to use, these presentations will enable you to spend less time preparing for lecture!

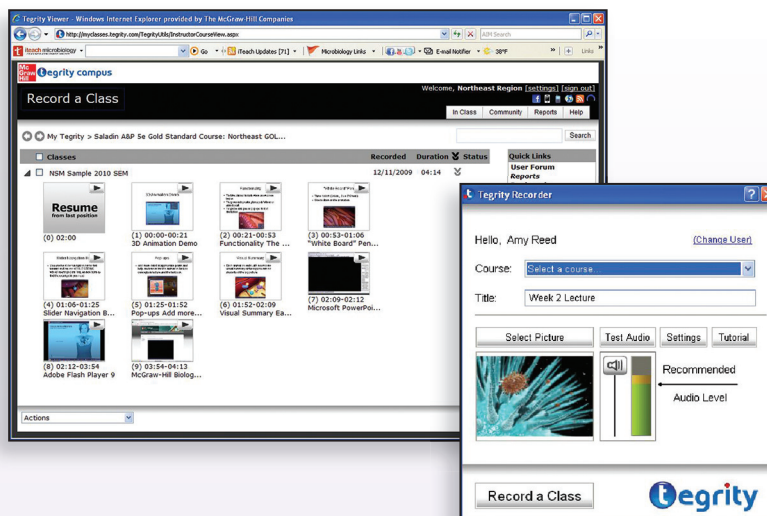
Animations Over 100 animations bring key concepts to life, available for instructors and students.

Animation PPTs Animations are truly embedded in PowerPoint® for ultimate ease of use! Just copy and paste into your custom slide show and you're done!



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McGraw-Hill Tegrity Campus™ records and distributes your lectures with just a click of a button. Students can view them anytime/anywhere via computer, iPod, or mobile device. Tegrity Campus indexes as it records your slideshow presentations and anything shown on your computer so **students can use keywords to find exactly what they want to study.**



"This text is the complete package. It is well written and is supplemented with superior digital content."

—Nahel W. Awadallah, Johnston Community College

Be sure to visit Kelly's blog, www.microbiologymaven.com, where she and her guest bloggers tackle science and science teaching, as well as the occasional off-the-wall topic. If you subscribe (for free) you'll get emails once or twice a week with new entries: just enough to relieve stress and renew your sense of camaraderie with fellow instructors around the country.

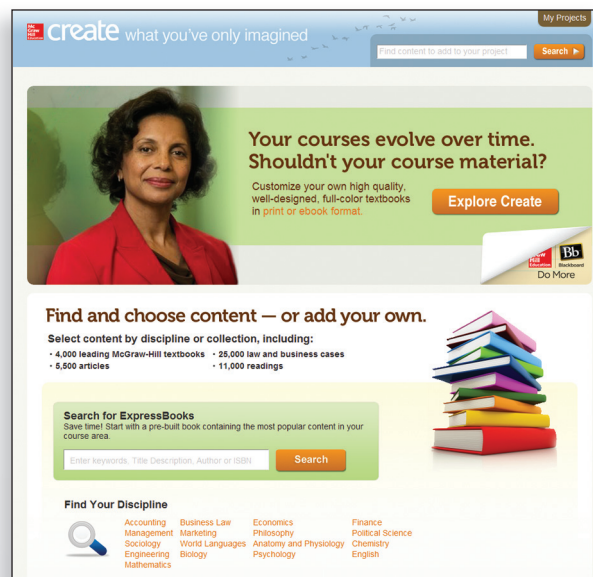
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