



## Rebekka Darner Gougis, Ph.D.

Illinois State University

### Challenges

- Some online programs have multiple-choice and simple fill-in questions that don't promote critical thinking and conceptual understanding.
- Students typically need more than one exposure to course content to understand and retain it.

### Solutions

- MindTap for Robert K. Noyd, Jerome A. Krueger, and Kendra M. Hill's *Biology: Organisms and Adaptations*

### Results

- Aplia homework features a diversity of problem types, including interactive problems, applications, and animations that promote active learning and build conceptual understanding.
- By completing auto-graded quizzes and tutorial questions prior to class, students are familiar with terminology and basic material, which is reinforced and expanded upon in lectures.



## Success Story

### MindTap® Promotes Active Learning for Non-Major Biology Students

Rebekka Darner Gougis uses MindTap® in her biology for non-science majors course at Illinois State University, and both she and her students are satisfied with the personalized online learning experience.

No stranger to online teaching resources, Rebekka previously used another company's digital biology product. While she appreciated some aspects of the program, she was also troubled by it. "All questions were the type for which answers could be easily found online," she says. "I got tired of seeing students cheat by just Googling the answers. I wanted to try something that was newer and that motivated students to think more critically, and MindTap was appealing."

### Better MindTap Grades — Better Course Grades

MindTap integrates with the university's Sakai learning management system and plays a significant role in the course, counting for 28% of the course grade. Rebekka assigns MindTap tutorial questions and quizzes, powered by Aplia™, and sets a due date of the week before she covers the material in a lecture. She also assigns Aplia problems as homework. Students can access her recorded lectures on MindTap, too. "I need the students to come to class knowing the vocabulary. If they answer the tutorial questions, they will be familiar with terminology so we can start at a higher level," she says. "We cover the material in class and have discussions about it, and then the related Aplia homework is due at the end of the week. There's a strong correlation between students' Aplia scores and the scores on the exams. Aplia questions support the goals of the class, so if students answer those questions they typically do well on the exams."

### Going Beyond Rote Learning to Conceptual Understanding

Rebekka says she particularly likes the Aplia activities, which help students understand key concepts via active learning, focused assignments, and a diversity of question types. There are experimental and observational approaches to research, real-world applications to test conceptual understanding, and animations that clarify biological processes. Assignments also offer auto grading and detailed explanations. "I love that Aplia questions test higher-order cognitive skills," says Rebekka. "Every question is contextualized. I'm a big fan of problem-based learning and Aplia really supports that. It prepares students for the similar application and synthesis questions that I ask on the exams." She continues, "I also like that the quizzes are on basic comprehension and vocabulary, which is what I want them to



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know before class. I want them to be exposed to the material for the second time during my lecture, not the first. Apla ensures that they are familiar with the topics we’re covering, so we can spend class time having more meaningful discussions.”

## A Bridge from the Classroom to the Outside World

According to Rebekka, academic dishonesty meetings are a thing of the past in her classes since she began using MindTap. “Students disliked our previous program and made it known on their course evaluations, but I’ve had no complaints about MindTap at all,” she says. “With my former online program, there were many complaints that the exam didn’t match up with the book and questions. That’s no longer the case. Students are more confident that the material they study in MindTap is what they’ll see on the exam.”

She continues, “MindTap very much supports my process of teaching. I am trying to get some of my colleagues to move from a traditional method of teaching that is based on memorizing, to teaching based on application. I want my students to make the connection between what they learn in the classroom and what’s happening in the outside world. Building that bridge is my goal, and Mindtap helps me with that.”



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