

Wallace Butler, BA

Adjunct Professor — County College of Morris

Aplia™ Encourages Environmental Science Students to Read and Learn

Wallace Butler has nearly 30 years of experience teaching at County College of Morris (CCM), located in Randolph, New Jersey. The community college's motto is "connecting learning and life," a theme that is relevant in Wallace's biology of environmental concerns courses. He has used the Aplia™ online homework tool for only part of a semester, but has already developed confidence in it for its ability to motivate students to read their text and for the concept reinforcement it provides.

COURSES AND PARTICIPANTS

Biology of environmental concerns is a non-majors course in environmental science, primarily taken by students to meet a general science requirement. Students in Wallace's daytime classes tend to be of traditional college age; those taking the night class tend to be a bit older. The course is taught predominately in a lecture-lab format.

THE CHALLENGES

Wallace's challenges are all related to student engagement. "Many students have an innate fear of science and math, and their fear causes them to avoid studying," he says. "They enter the course without the necessary background and that probably feeds their reticence." Although many of Wallace's night students work 30 to 40 hours a week, they are otherwise "typical college students." "They want it all — fun, a job, and to do well in college, but something is going to get short shrift, and it's often the school work." Wallace also conjectures that today's students are so accustomed to instant information and "sound bites" that they are more difficult to engage in the level of work and concentration required to master the material.

Wallace does his best to make the course material relevant and interesting. "We try to put pizzazz into the subject with a variety of presentations, but sometimes you have to introduce cut-and-dried science. Lab work is a savior because the students are more hands on with the concepts, and they seem to respond to that." He adds, "I care most about whether students comprehend the material. I tell them that I hope they will gain a better understanding of their environment, how it is relevant to their future, and what their roles and responsibilities are as citizens."

Aplia was selected after Wallace and his colleagues commiserated about how to better engage students. "Students weren't reading their textbook, and we heard that Aplia was designed to help assure that they did their reading before coming to class. We hoped that it would encourage students to read as well as learn how to apply the material and improve their test scores."



CHALLENGES

- **Lack of science background causes some students to be intimidated**, by environmental science, and consequently reticent about studying.
- **Students who don't read their textbook** are less likely to benefit fully from lectures, and more likely to perform poorly in the course.
- **Instructors must make course content relevant** to spark students' interest and promote deeper understanding of concepts.

SOLUTIONS

- Aplia
- Miller G. Tyler Jr. & Scott Spoolman, *Environmental Science*

RESULTS

- **Aplia engages students with active learning opportunities**, that accommodate various learning styles. Ability to do each exercise three times encourages intimidated and slower students to continue practicing, thereby boosting their understanding and their scores.
- **Aplia motivates students to do the assigned reading** so they come to class prepared. Students who performed well in Aplia also performed better on exams.
- **Mirroring textbook content and themes, Aplia illustrates the relevance of environmental science** and helps students apply concepts through case studies, interactive exercises, and global perspectives.

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THE RESULTS

Although it's too soon for Wallace to make any proclamations about Aplia, the signs are auspicious. “The majority of students are doing the assignments, many of them with success levels above 80% and some as high as 98% or 99%, which is exactly what we want,” says Wallace. “The students who do the work are also the ones who typically do well on exams.”

Wallace likes that Aplia assignments get to the heart of what is covered in the textbook, and that Aplia challenges students while also giving them multiple opportunities to be successful. “Students love the fact that they get three chances to do an assignment. I like that it compels them to do the work if they want to improve their grade,” says Wallace. Assignments include active learning opportunities and questions that reinforce and apply concepts through case studies, real-world applications, global perspectives, and more. Many of the automatically graded questions are randomized, providing more effective practice when students repeat an exercise. Visuals and varying question types accommodate different learning styles, helping to keep students engaged.

Wallace says the biggest advantages of Aplia are how it motivates students to read the book as well as the way it reinforces the material presented in the text and in lectures. He is optimistic that weekly assignments will help students grasp course content at a comfortable pace, resulting in better performance on exams. The concepts that students explore in the Aplia assignments mirror the text topics covered in lectures. Although he doesn't require assignments to be completed before the relevant lecture, some students appear to be doing just that.

Aplia has already inspired Wallace's confidence. “My students appear to be engaging with Aplia, and I know it is reinforcing readings and lectures. If the college were to ask me to teach another course such as biology, I'd want Aplia.”

County College of Morris
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