

Dr. Dennis Slivinski
California State University
Channel Islands

Aplia leads to Higher Grades and
Success Rates in Logic Courses at
California State University
Channel Islands



About Aplia

Aplia is an online learning solution dedicated to improving students' learning by increasing their effort and engagement with your course. Its interactive chapter assignments are designed to move students from lower- to higher-order thinking skills.

Founded by an instructor for other instructors, Aplia offers several benefits:

- Students find premium, automatically graded assignments with detailed explanations that ensure they put forth effort on a regular basis.
- Instructors save time they'd otherwise spend on routine grading while giving students an easy way to stay on top of coursework with regularly scheduled assignments.
- Aplia assignments have been developed for a range of textbooks and are easily customized for individual teaching schedules. Currently, Aplia supports college-level courses and has been used by more than 4,900,000 students at 1,700+ institutions.

Aplia helps philosophy students improve their reasoning and critical-thinking skills with ample practice and detailed explanations.

- Step-by-step explanations help students learn from every question.
- Interactive assignments heighten students' interest and help them understand difficult or counterintuitive concepts.
- Grades are automatically recorded in the instructor's Aplia grade book.

THE INSTITUTION

The newest campus of the California State University System, California State University Channel Islands (CSUCI) was founded in the 2002. It offers 23 undergraduate majors as well as six graduate and 10 teaching credential certificates to its growing and diverse student population in Southern California. Its academic programs focus on liberal studies, sciences, business, teaching credentials and innovative master's degrees. As a student-centered, four-year public university, CSUCI has become known for its interdisciplinary, multicultural, and international perspectives and its emphasis on experiential and service learning.

THE COURSE

MATH 230, Logic and Mathematical Reasoning, is a key course in the mathematical sequence of many undergraduate majors at CSUCI. It is a three-unit introductory course with large enrollment taught by instructors in a number of departments. As an introduction to modern deductive logic, MATH 230 covers critical thinking and abstract approaches to common language, abstract sets and number sets, relations, propositional logic, common language cases, and theory of quantification.

THE INSTRUCTOR

Dr. Dennis Slivinski, a lecturer in the Martin V. Smith School of Business & Economics and the Mathematics Program, has been teaching MATH 230 since 2007. He has used Hurley's "A Concise Introduction to Logic" in his course and faced the common challenge of getting students to practice outside of class. His previous digital solution did not have Aplia's interactive presentation, especially in key chapters, so the instructor saw Aplia as a potential solution to this problem, and began using this resource in 2010.

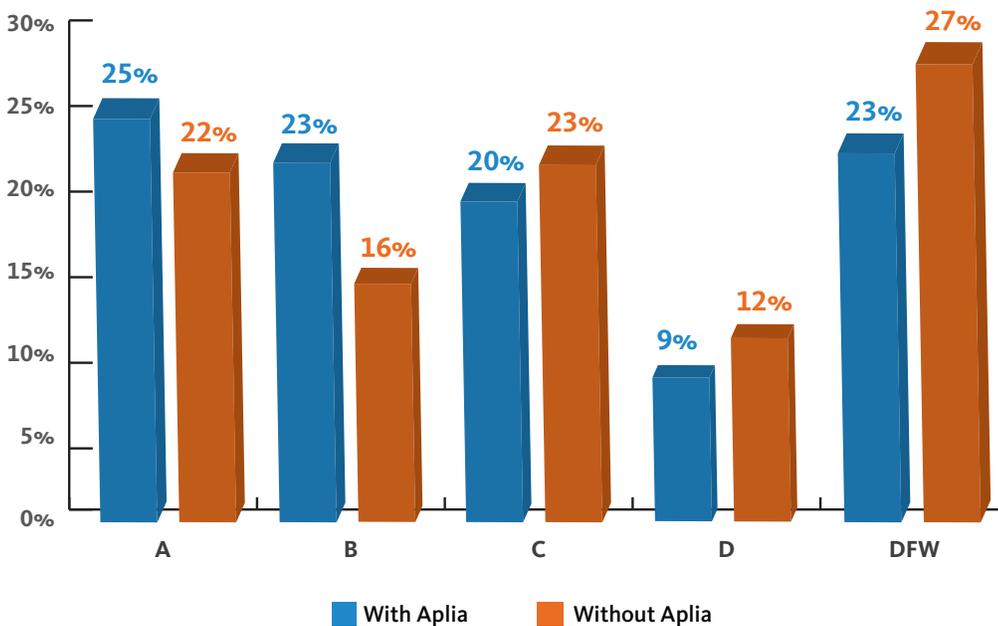
THE FINDINGS

To better understand the impact of Aplia on his students, Dr. Slivinski collected final grades over five years. The results, presented below, show a significant improvement in student performance with Aplia.

Dr. Slivinski started to collect final grade data in fall 2007. Through Spring of 2010, 399 students enrolled in his MATH 230 course. From Fall of 2010 until Spring of 2013, 316 students enrolled in his course using Aplia. The results are shown in the table below.

With Aplia the number of students receiving A's or B's increased by over 10%; while students receiving C's or D's decreased by almost 7%. At the same time, the percent of students not completing the course dropped by more than 3%, resulting in a higher course success rate of 77%. Comparing student grades using grade point average (GPA), learners using Aplia (M = 2.24, SD = 1.47) were statistically more likely to earn a higher grade than those who took the course without Aplia (M = 2.02, SD = 1.47), $df(713)$, $p < .05$.

TABLE 1: Using Aplia Improved Learning Outcomes in MATH 230



THE CONCLUSION

Integrating Aplia into CSUCI's Logic and Mathematical Reasoning course resulted in improved learning and grades. Dr. Slivinski sees Aplia as a tool that also reduced his workload and increased student engagement, and looks forward to using Aplia to support the creation of new programs at his school. Aplia helps students succeed in their logic courses and develop critical skills for the 21st century.

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“The major challenge was to provide some incentive for students to practice logic outside of class. This is a skills course in abstract reasoning, not a data course. I explain the need for regular practice with the analogy of a professional musician. One has to practice the scales, chord changes and charts to improve on the way to excellent execution. Even Jascha Heifetz had to practice.”

“MATH 230, is required for Math, Computer Science, and Applied Physics majors. So deductive logical reasoning is emphasized.”



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