Revel educator study examines impact of increased Revel assignments on student performance at College of the Sequoias

<table>
<thead>
<tr>
<th>School name</th>
<th>College of the Sequoias, Visalia, CA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course name</td>
<td>Introduction to Sociology</td>
</tr>
<tr>
<td>Course format</td>
<td>Face to face</td>
</tr>
<tr>
<td>Course materials</td>
<td>Revel for Essentials of Sociology: A Down-to-Earth Approach by Henslin</td>
</tr>
<tr>
<td>Timeframe</td>
<td>Summer 2017</td>
</tr>
<tr>
<td>Educator</td>
<td>Catherine Medrano, Associate Professor</td>
</tr>
<tr>
<td>Results reported by</td>
<td>Stephanie Fritson, Pearson Customer Outcomes Analytics Manager</td>
</tr>
</tbody>
</table>

**Key Findings**

- When a greater number of Revel assignments (108) were required in the course, overall course grades, average exam scores, average essay scores, and final Revel scores were higher than when fewer assignments (56) were required in the course.
- Data indicate a strong correlation between the overall percentage of Revel points earned and final grades.
- 95 percent of student respondents reported they asked questions or participated in class discussions when Revel was used in the course.

**Setting**

- Locale: public, two-year community college located in central California
- Enrollment: approximately 15,800 students (2016–2017 academic year)
- Full-time students: 41 percent
- Age 24 and under: 68 percent
- Gender: 56 percent female
- Minority: 65 percent Hispanic, 77 percent total minority
First-year retention rate: 68 percent
Six-year completion rate: 46 percent

About the Course

Sociology 1 is a three-credit hour, introductory course covering basic concepts, principles, methods, and theoretical perspectives of sociology. Topics include culture, personality, social inequality, diversity, institutions, population and ecology, and social change. Course objectives include the ability to apply sociological principles to everyday life. The Summer course was taught in four-week and six-week sessions.

Challenges and Goals

Instructor Medrano began using Revel™ in her Introduction to Sociology course at College of the Sequoias in Spring 2015 as an adjunct instructor. At that time, she was teaching Introduction to Sociology courses at both Fresno City College and College of the Sequoias. She found her students were struggling with the course content, and she was curving exam grades in order for students to pass the course. She implemented Revel as a way to require students to read and reflect on their assigned reading, with the goal of increasing exam scores and no longer curving exams. Results of her initial implementation are detailed in this 2015 Revel educator study.

Medrano subsequently accepted an Associate Professor position at College of the Sequoias where she continues to teach Sociology 1. During her tenure at College of the Sequoias, she has incorporated three essay assignments into the course to promote the analysis and application of sociological concepts. Results of her essay implementation are detailed in this recent study from Spring 2017.

As Medrano has consistently worked to improve her course, she has made adjustments to the number of Revel assignments due each term. Initially, she assigned all available assignments for Revel topics covered in her course. But, as she increased the number of chapters she was covering in the course, she began decreasing the number of Revel assignments required per chapter because she wanted to keep the number of assignments manageable for students. In Spring of 2017, she assigned 58 of the available 108 assignments for the chapters covered in her course. With the decrease in Revel assignments, she had concerns about whether students were still reading the course content needed to succeed in the course. So, she decided to assign a greater number of Revel quizzes for each chapter covered during the Summer 2017 sessions. Because the two summer sessions were four and six weeks in length (compared with 16 weeks for the Spring 2017 semester), Medrano had concerns about the student workload, but she decided to go forward with the more rigorous assignment schedule in hopes that it would increase student reading and understanding of the material, along with exams scores and final grades.

Implementation

The four-week Summer session of Sociology 1 met four times a week for a total of twelve hours and twenty minutes each week. The six-week Summer session met four times a week for eight hours and twenty minutes total each week. Each session covered 15 chapters over the course of the term.
Grades for the course were comprised of exams and accompanying study guides, essays, Revel quizzes, and class participation, with a total of 1000 possible points. Final grades were assigned as follows:

- **A** 895–1000 points
- **B** 795–894 points
- **C** 695–794 points
- **D** 595–694 points
- **F** 0–594 points

There were a total of six exams in the course. Exams 1–4 were mandatory, and each included a corresponding study guide developed by Medrano. The study guides consisted of a list of keywords for students to define, understand the significance of, and apply. Study guides were required to be handwritten and turned in prior to the exam. Late study guides and typed study guides were not accepted. Each exam with its corresponding study guide was worth 100 points. The exams consisted of multiple-choice questions and/or written responses. Exam 5 was given for extra credit and was worth half the points of a regular exam. However, the study guide for Exam 5 was mandatory. Exam 6 (final exam) was cumulative with no corresponding study guide. If students missed an exam, they could count the final exam score for two exams. For example, if a student missed Exam 2 and scored an 80 percent on the final exam, they received a score of 80 percent on Exam 2 and the final exam. After all submitted work (including extra credit) for the semester was graded, students with an A in the course did not have to take the final exam. The total possible number of points for the exams and study guides was 500.

Students were assigned three essays that were worth 60 points each for a total of 180 points. The essays required students to identify, define, apply, and evaluate key concepts presented in the texts and/or lectures. Essay topics, paper guidelines, and submission instructions were posted on Canvas, the school's Learning Management System. All essay assignments were submitted online. The first two essays were submitted through Canvas and graded by the instructor. The final essay was an auto-graded essay in Revel.

Revel quizzes were due the Friday of the week assigned at 11:59 p.m. Students were given three attempts to answer each Revel quiz question correctly. Each time an incorrect answer was selected on a Revel quiz, one point was deducted from the score. Students were allowed to read and take quizzes after the due date/time, but did not receive any points for late submissions. Students' final percentage on Revel was converted to a maximum of 180 points (e.g., 90 percent on Revel = 162/180 points). Medrano assigned 108 quizzes during the Summer 2017 session, compared with 56 Revel quizzes assigned during the Spring 2017 session.

A total of 160 participation points were assigned. Participation points included two formal group PowerPoint presentations. The 15-minute chapter presentation was worth 25 points and required students to present in groups of three-to-five students on a section from chapter 3, 5, or 10 of the text. The second presentation, worth 50 points, required students to present for 15 minutes in groups of five on a social problem that they would like to change for the better—including proposed solutions. The presentations required five sources, three of which were peer reviewed. The remainder of the participation points consisted of written responses to questions while working in groups during class, and homework that required students to watch a documentary and answer questions.
Assessments

- 50% Exams (6) and accompanying study guides (5)
- 18% Essays (3)
- 18% Revel quizzes
- 14% Class participation

Results and Data

In assigning a greater number of Revel quizzes per chapter, Medrano hoped to increase student reading to improve exam scores, essay scores, Revel scores, and overall course scores. Results indicate Summer 2017 students performed better on all measures than Spring 2017 students (figure 1). Prior research suggests that students perform better in compressed courses than in traditional, 16-week sessions, which may have been a contributing factor to the improved scores during Summer 2017.¹

Comparison of student scores in Spring 2017 and Summer 2017

![Bar chart comparing scores between Spring 2017 and Summer 2017](image)

Figure 1. Comparison of Final Course Scores, Average Exam Scores, Average Essay Scores, and Final Revel Scores, Spring 2017 ($n=251$), Summer 2017 ($n=61$)

A correlation measures the strength of a relationship between two variables, where $r$ is the correlation coefficient. The closer a positive $r$-value is to 1.0, the stronger the correlation. The corresponding $p$-value measures the statistical significance or strength of the correlation, where a $p$-value <0.001 shows the existence of a positive correlation between these two variables. Note that correlation does not imply causation; it is simply a measure of the strength of the relationship. An analysis of Revel quiz scores and final course scores (figure 2) shows a strong correlation between the two assessments ($r=0.78$, $p<0.05$). It should be noted that Revel contributes 18 percent towards final grades, which may impact this relationship.
Medrano was concerned about overwhelming students with the number of Revel assignments, which could result in incomplete assignments and scores of zero on Revel quizzes. However, results indicate that fewer scores of zero were recorded on Revel assignments in the Summer 2017 sessions than in the Spring 2017 sessions (figure 3).

**Percentage of Scores of Zero on Revel Assignments in Spring 2017 and Summer 2017**

![Percentage of Scores of Zero on Revel Assignments](image)
The Student Experience

In Spring 2017, students completed a voluntary, end-of-semester survey (69 percent response rate), providing valuable insight on their experience using Revel.

- 98 percent of respondents reported they were able to access and complete Revel assignments throughout the semester.
- 95 percent of respondents reported they asked questions or participated in class discussions.
- 63 percent of respondents reported completing assignments using the Revel app often or very often.

Student survey comments regarding their Revel experience included:

- “Revel had a huge impact on my learning, I understand material much better when it's being read to me.”
- “Revel has made it easier to remember definitions and important topics for tests and quizzes.”
- “I think it added to my learning, because the frequent but small quizzes helped embed information into my brain, and the almost informal language and simple vocabulary definition tools (bolded words) were a great help.”
- “Revel has made it easier for me to navigate through the chapters, and really see what sections I needed help on.”

“I actually read everything, which I wouldn't have if it was a traditional textbook.”
—Anonymous student on end-of-semester survey

Conclusion

Medrano initially implemented Revel in her Sociology 1 course with the goal of increasing participation in class discussion and improving student exam scores. After several semesters of Revel use, she had increased the number of chapters she was covering, but had decreased the number of Revel assignments per chapter. With the decrease in Revel assignments per chapter, Medrano was concerned students’ reading and assignment completion had also decreased. In Summer 2017, she nearly doubled the number of required Revel assignments in the course from 56 to 108. Results indicate that final grades, average exam scores, average essay scores, and final Revel scores all increased with the increased number of Revel assignments. The percentage of zeros on Revel assignments decreased from 17 percent in Spring 2017 to 5 percent in Summer 2017. Despite the accelerated pace of the Summer session, overall student performance improved with the greater number of Revel assignments. Medrano will continue to require the larger number of Revel assignments in Fall 2017 and also plans to adjust assignment due dates from once a week to being due the day the class meets to see if this further improves results.