

Mini-Lectures: Increasing Student Success through the use of Mini-Lectures.

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- **Students test scores and persistence rates were higher for students that had access and used the Mini-Lectures.**
- **Student test scores were as much as one full letter grade higher.**
- **The number of students enrolled after 12 weeks was larger in courses where critical technical material was presented using the Mini-Lecture format.**
- **Late term Class averages (which included homework material and a mid-term exam) were higher in the courses where critical technical material was presented using Mini-Lectures.**
- **Mini-Lectures avoid many of the problems associated with posting an entire recorded lecture lasting 1 hour and 20 minutes or longer.**
- **Mini-Lectures provide concise recorded video information in a 1-5 minute timeframe.**
- **Mini-lectures can be used in an online, traditional and hybrid course setting.**
- **Mini-Lectures can be developed for many course and can be used in a variety of educational settings including College, High School, Middle School and Elementary School to increase student success.**

I would like to thank CASSL for this opportunity to investigate this interesting and innovative idea. This initial inquiry supports the value of doing additional research in this area. Studies related to subject (Economics, English, Biology...), type of course (online, hybrid, traditional), time of class (morning, night, weekend, MW, TTH, F), linking this research to other research being conducted by Jeanne Edman related to student perceptions, as well as investigating other variables that may provide valuable insight into how we as teachers and an institution can meet the needs of our students and increase their opportunities for success.

Project Goal: To investigate the use of Mini-Lectures to increase student access, retention and success in the subject area of Economics. Economics is technical in nature and many students struggle with the technical aspects as well as the critical thinking aspect of the subject. The subject material presented in economics classes provides students with lifelong tools and a foundation for understanding the economy in which we all participate on a daily basis. Increasing retention, access, and success in these courses will not only have direct impacts on individuals taking these courses but also on society as these individuals interact in the global community.

Methods: Data was collected in two online ECON304 courses during the Spring 2010 semester at CRC to investigate the use of Mini-Lectures and the potential effects on student success in terms of student scores on quizzes and student retention in terms of length of time before drop. The data collected is analyzed using two scenarios. The first scenario is a within class comparison which compared students who accessed the mini-lectures to students who did not access the mini-lectures. The second scenario is an across course comparison where a control group was used to see if students in courses having access to the mini-lectures had class average scores that were different than those than courses that did not have access to the mini-lectures.

Results: Chapter 1 Results: A Mini-Lecture was recorded covering PPC's and OC and posted online. A comparison of Multiple Choice questions (17) in Chapter 1. This is a within class data comparison. A comparison of student average scores with and without mini-lecture. The average score for without mini-lecture was 12.18 while the average score with mini-lecture was 12.56. The average scores are higher in this first sample which was conducted early in the first week of the semester.

Chapter 3 Results: I recorded several Mini-Lectures related to the material in chapter three. I looked at statistics for two groups. Those who looked at 3 videos and those that did not. The average score for the students that viewed the videos was 9.8 while the average score the group that did not watch the videos was 8.375. The possible points were 11. This is the difference between a C = .7614 and a B = .891. This is a full letter grade difference. I suspect, as the material becomes more technical in nature the videos will continue to add value to the students' learning experiences. This was a within class comparison.

Across Class Comparison: Online 2 had an average score of 77.66 with one enrolled student not taking the test. The low score was 27.27. Online 1 had an average score of 76.17 and a low score of 18.18. All enrolled students took this test.

Late term comparison: A comparison of total number of participating students was also carried out late in the semester (April 30th, 2010) to investigate student persistence. Pre-final exam course grades (pre-final grades include homework material and a mid-term exam) were also analyzed. Econ 304 (19285 Class 1). It is interesting to note that the number of students enrolled at this point in the class is 31. For ECON 304 (section 19289 class 2) the number of students enrolled student is 24. This may be an indicator of persistence. The average grades are also different. There is a 2 percentage point difference in the class average between the two courses. One of the possible explanations for this increased

persistence and higher average scores can be related to the timely placement of mini-lectures for crucial technical information when students are most receptive to receiving additional support related to course material. The course with the higher class average and higher number of students was provided a critical set of mini-lectures related to chapter 5 material which is one of the first in depth technical chapters in Microeconomics. I suspect that the tools used in this chapter helped develop techniques for addressing future material in the course.

This seems to suggest that the mini-lectures provide an opportunity for students to achieve a higher level of success as measured by their grade in the class. It also seems to suggest that the persistence rates are also higher as measured by the number of students enrolled at any given time during a semester.

Both of these observations seem to suggest that there is value to adding this kind of element to online courses. It may also provide additional benefit in terms of the traditional and hybrid courses currently being offered across the Los Rios District.

Additional data can be found in Appendix 1.

Planned Implementation: The research has shown that in this case it appears that providing mini-lectures highlighting foundational material at a point in the course where technical material becomes problematic can increase student success. This semester highlighted this point occurring in the first technical chapter (chapter 5). This seems to be a turning point. Given this information, I will include mini-lectures for this section in all of the online course offerings I teach from this point forward.

Broader Implications: The results suggest that other online courses involving technical material may benefit from the mini-lecture approach. It also appears that other online courses in Economics could benefit from the integration of mini-lectures to increase student success and retention rates across the Los Rios Community College District.

The data suggests that the use of mini-lectures could be adopted to increase student success. Thus far it appears student success has been measured using student test scores and length of time before a student drops the course.

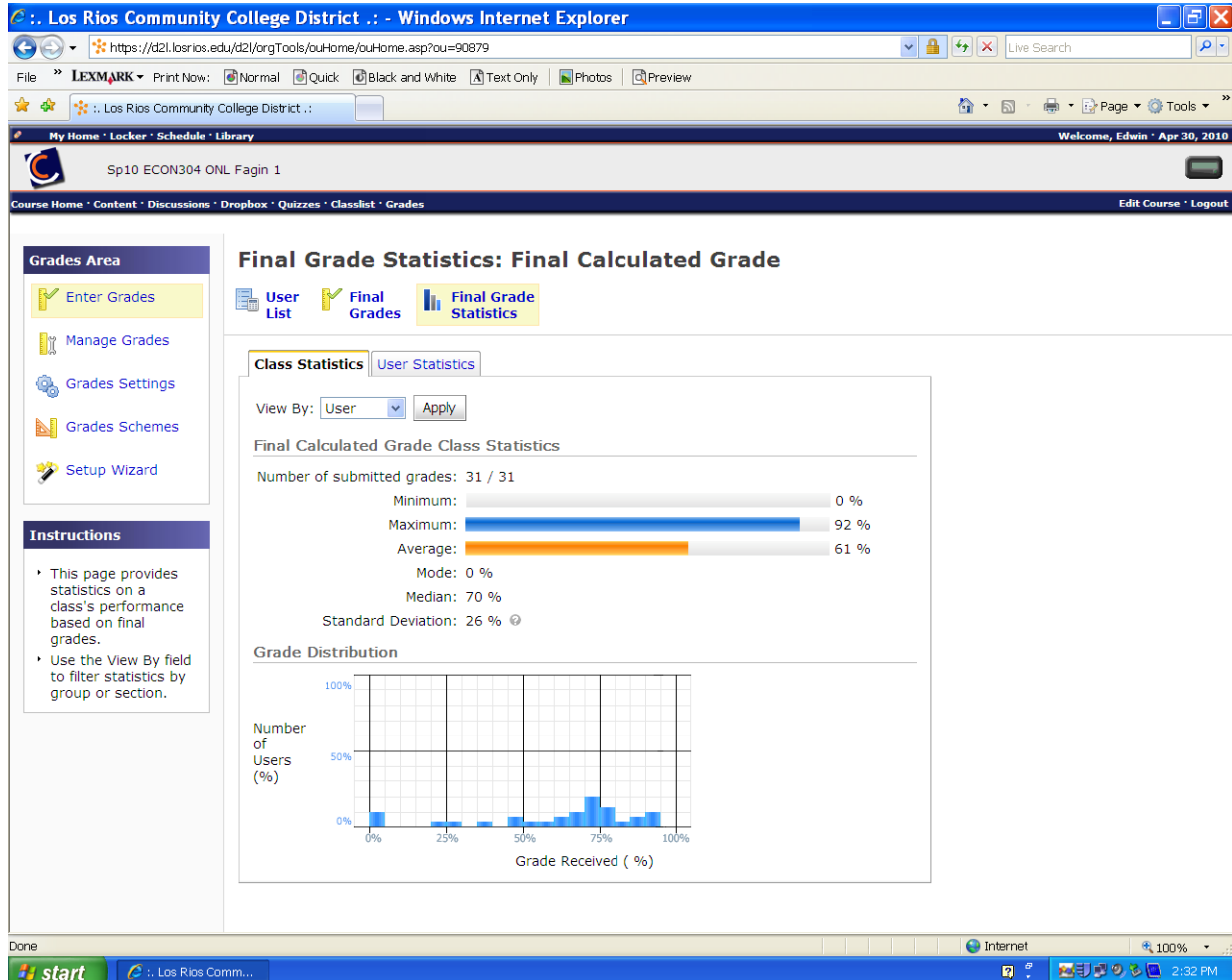
In the future, I would like to participate in developing a program to inform other faculty members about the benefits of using Mini-Lectures. I also believe the use of this innovative teaching tool will keep CRC and the Los Rios Community College District at the forefront of technology and its uses in increasing student success. In addition to the aforementioned, I would also like to suggest that this program could be developed, replicated and presented to other educational institutions.

Appendix 1

Econ 19285 Econ302 Class 1

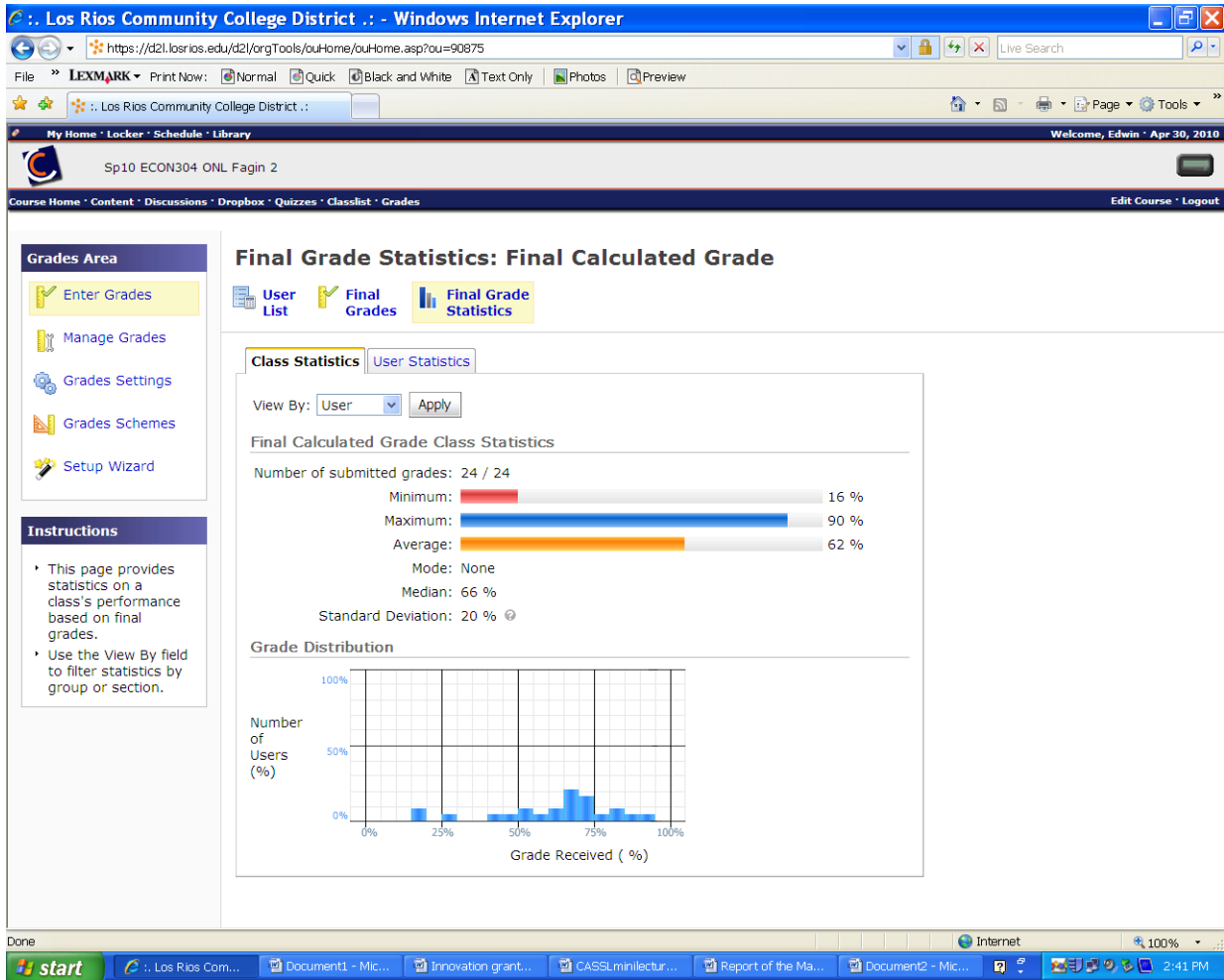
Online average grade pre final exam.

April 30th, 2010



It is interesting to note that the number of students enrolled at this point in the class is 31. For section 19289 the number of students enrolled and the grades are different.

Econ 19289 Econ302 Class 2



The average is 2 percentage points lower. The number of enrolled students is 24.

Appendix 2

Student Perceptions: A number of students have sent e-mails expressing their opinions about the use of Mini-lectures. The following is a list of student comments.

Hello Dr. Fagin,

All the videos were very helpful.

Good Morning Professor Fagin,
I would like to say that the videos were very helpful, and were greatly appreciated.

Thank You

Hello Professor Fagin,

Thank you so much for the videos. They are very helpful. I hope other students find them to be of great assistance to them as I had.

I LOVE YOUR VIDEOS!

It's really neat and helpful. I understand much better now, Thanks!

I have been watching them a couple of times I really like them. I think its a great way to get more out of the class too.