Our Elementary statistics course covers the study of frequency distributions, averages and standard deviations, normal curve, probability, decision-making, sampling techniques, testing hypotheses, students-t -distributions, correlation and linear regression. We offer multiple sections of this course online each semester in our adult degree completion programs. This study compares student performance for two groups over six semesters with the same course content, assignments and exams. One group also had benefit of video lectures to supplement the lecture notes in the course. Analysis of the student performance with the video lectures showed a significant increase in average grade, from 2.38 to 2.71 quality points (p-value = 0.0326), as well as a significant decrease in the failure/withdrawal rate, from 16.4% to 4.3% (p-value = 0.0010). (Received September 16, 2019)