



CENTRAL WASHINGTON UNIVERSITY

FALL 2015, WINTER 2016, and SPRING 2016 STUDENT EVALUATIONS OF INSTRUCTION (SEIs)

**A COMPARISON OF RESPONSES
FACE-TO-FACE, INTERACTIVE VIDEO, AND ONLINE COURSES**

I. Abstract	2.
II. Executive Summary	2.
III. Background	2.
IV. Results	5.
A. CWU Student Ratings of Instruction.....	5.
B. General Information	7.
V. Summary	8.
Appendix 1. Terms, Acronyms, and Abbreviations	9.

I. ABSTRACT

This report compares the Student Evaluations of Instruction (SEIs) of students enrolled in courses taught face-to-face in traditional classrooms (F2F), via synchronous interactive video (ITV), and “online” to students enrolled in courses taught 100% online. The main research questions this report addresses are:

- How do CWU students rate their instruction?
- Do course evaluations indicate any major differences in learning environment and instruction between courses taught online, via interactive video, or face-to-face courses taught in-class?

II. EXECUTIVE SUMMARY

- CWU students’ ratings of instruction during the 2015/2016 academic year were, on average, very positive.
- Student evaluations of online courses and interactive video courses are very similar to the ratings of students in traditional face-to-face courses. All differences were small.

III. BACKGROUND

During the 2015/16 academic year Central Washington University administered all course evaluations online. The questions on forms designed for online students and face-to-face lecture students are similar.

Mock ups of the course evaluation forms can be found at:

- [Form A - Lecture](#)
- [Form C - Skills Acquisition](#)
- [Form D - Laboratory](#)
- [Form E - Visual and Performing Arts](#)
- [Form F - Field Experience / Student Teaching](#)
- [Form W - Online](#)

Note 1: this analysis does not compare online or ITV SEIs to Forms C, D, E, or F because: (a) the questions on those evaluation forms are not as similar as Form A and Form W, and (b) because many of the courses assessed with those forms do not use traditional classroom settings.

Note 2: this analysis does not include summer 2016 SEI results.

During the 2015/16 academic year Form A and Form W accounted for 87% of all course evaluations, see Table 1.

Table 1 summarizes the number of responses to all SEOI forms during the fall 2015, winter 2016, and spring 2016 terms.

Table 1 - Responses to Course Evaluations by Evaluation Form by Term

	Fall '15	Winter '16	Spring '16	Total	%
Form A - Lecture	10,888	10,270	7,810	28,968	68%
Form C – Skills Acquisition	951	966	790	2,707	6%
Form D - Lab	609	602	468	1,679	4%
Form E - Arts	376	367	388	1,131	3%
Form F – Field Experience	61	40	67	168	0.4%
Form W - Online	2,664	2,969	2,587	8,220	19%
Term Totals	15,549	15,214	12,110	42,873	
Percent of 2013/14	36%	35%	28%		100%

The SEOI web site has information about the online course evaluation process and links to the final SEOI Task Force report: <http://www.cwu.edu/seoi>. Many of the questions on CWU’s course evaluations use a five point Likert scale arranged in a table format (a visual analog scale). For this analysis a response of “Strongly agree” is assigned a value of 5. A response of “Strongly disagree” is assigned a value of 1 (see “Likert scale” in appendix 1).

The CWU-wide average response rates have been decreasing. The spring 2013 term was the first quarter that SEOIs were administered for just one week to students (as opposed to two weeks in prior quarters). Another major difference was that faculty could no longer download a list of students who did or did not respond to SEOIs.

Table 2 - Response Rates to SEOIs by Term and Form (with length of time of administered)

CWU SEOI RESPONSE RATES	Spring 2012	Fall 2012	Winter 2013	Spring 2013	Fall 2013	Winter 2014	Spring 2014	Fall 2014	Winter 2015	Spring 2015	Fall 2015	Winter 2016	Spring 2016
	2 weeks	2 weeks	2 weeks	1 week	1 week	2 weeks	2 weeks	2 weeks	2 weeks	2 weeks	2 weeks	2 weeks	2 wks
Form A - Lecture	56%	57%	51%	41%	44%	44%	33%	39%	40%	35%	39%	41%	31%
Form C - Skills Acquisition	48%	48%	41%	33%	39%	36%	31%	37%	33%	27%	32%	33%	26%
Form D - Lab	55%	51%	45%	37%	46%	38%	32%	37%	30%	26%	28%	28%	25%
Form E - Visual & Perform. Arts	49%	45%	37%	27%	38%	32%	27%	28%	24%	21%	27%	26%	24%
Form F - Field Experience	(added spring 2013)			53%	51%	56%	53%	36%	36%	37%	25%	29%	38%
Form W - Online	62%	64%	62%	53%	46%	49%	43%	47%	53%	49%	44%	46%	41%
Overall Average	56%	56%	50%	41%	44%	43%	34%	39%	40%	37%	38%	40%	32%

IV. RESULTS

A. CWU STUDENT RATINGS OF INSTRUCTION

CWU students' evaluation of instruction continues to be very positive. The first two question banks on course evaluation forms relate to "Student Learning Environment" and "Teaching for Student Learning." All medians for online courses and 13 of 16 medians for face-to-face courses were 5.0, i.e., more than 50% of the students gave the highest possible rating.

Table 4 presents a comparison of results from face-to-face, interactive-video, and online courses. Only the questions that have the same or very similar text on both SEOI forms (Form A – Lecture and Form W – Online) are listed and compared. All of the differences in averages were small.

- As measured by Hedge's *g*, the differences (Effect size) in the average responses between face-to-face and interactive video courses are small for 15 of the 16 questions (See appendix 1 for detailed explanations of "effect size" and "Hedge's *g*."
- The differences in the average responses between face-to-face and online courses are all small as measured by Hedge's *g*.

Note: Hedge's *g* effect size is a method of quantifying "effect size", i.e., the difference or "distance" between the means of two groups. Effect sizes of 0.1 or less are often considered "small," 0.3 are "medium", 0.5 are "large" and .7 or higher are "very large". Differences were computed between face-to-face and interactive video courses as well as between face-to-face and online courses. Hedge's *g* uses "pooled standard deviations." This method gives more weight to the standard deviation of larger sample sizes. It is used when sample sizes are quite different between two groups.

A Likert scale was used on all of the above questions:

- 5 -	- 4 -	- 3 -	- 2 -	- 1 -
Strongly agree	Agree	Neutral	Disagree	Strongly disagree

Table 4 - 2015/16 Medians, Averages, and Comparison of Averages for Face-to-Face, Interactive Video, and Online Courses (medians less than 5.0 are highlighted)

2015/16 Academic Year SEOI Results		Face-to-face (F2F) vs. Interactive Video (ITV) vs. 100% Online Medians less than 5.0 are highlighted									
		F2F Medians	ITV Medians	Online Medians	F2F Averages	ITV Averages	Online Averages	Effect Size: F2F vs. ITV	Effect size: F2F vs. Online	Difference in F2F vs. ITV	Difference in F2F vs. Online
1 - STUDENT LEARNING ENVIRONMENT To what extent do you agree or disagree that the...											
1.a./1.a.	instructor fostered a fair and respectful learning environment?	5.0	5.0	5.0	4.5	4.5	4.4	-0.1	0.0	SMALL	SMALL
1.b./1.b.	instructor seemed genuinely concerned with whether students learned?	5.0	5.0	5.0	4.3	4.4	4.3	0.0	0.0	SMALL	SMALL
1.c./1.c.	standards of online behavior were clearly communicated and enforced?	5.0	5.0	5.0	4.4	4.4	4.4	-0.1	0.0	SMALL	SMALL
1.g.	If YES, did the instructor provide help?	5.0	5.0	5.0	4.3	4.4	4.3	-0.1	0.0	SMALL	SMALL
2. TEACHING FOR STUDENT LEARNING To what extent do you agree or disagree .											
2.a./2.a.	course objectives were clearly communicated?	5.0	5.0	5.0	4.3	4.4	4.4	-0.1	-0.1	SMALL	SMALL
2.b./2.b.	overall course content was presented in an understandable sequence?	5.0	5.0	5.0	4.2	4.3	4.3	-0.1	-0.1	SMALL	SMALL
2.c./2.c.	instructor used a variety of methods, as needed, to make content clear?	4.0	5.0	5.0	4.1	4.3	4.2	-0.1	0.0	SMALL	SMALL
2.d./2.e.	assignments and tests were connected to course content?	5.0	5.0	5.0	4.4	4.4	4.5	0.0	-0.1	SMALL	SMALL
2.e./2.f.	evaluation and grading techniques were clearly explained?	5.0	5.0	5.0	4.2	4.4	4.3	-0.1	-0.1	SMALL	SMALL
2.f./2.g.	instructions for class activities were clearly communicated?	5.0	5.0	5.0	4.3	4.4	4.3	-0.1	0.0	SMALL	SMALL
2.g./2.h.	instructor provided useful feedback on student work?	4.0	5.0	5.0	4.1	4.2	4.2	-0.1	-0.1	SMALL	SMALL
2.h./2.i.	instructor provided timely feedback on student progress?	4.0	5.0	5.0	4.2	4.2	4.2	-0.1	0.0	SMALL	SMALL
2.i./2.j.	class sessions (online activities) were well organized?	5.0	5.0	5.0	4.3	4.2	4.3	0.0	0.0	SMALL	SMALL
2.j./2.k.	out-of-class (online) work was useful in understanding course content?	5.0	5.0	5.0	4.2	4.3	4.3	-0.1	-0.1	SMALL	SMALL
2.k./2.l.	instructor encouraged students to connect course content to issues beyond classroom?	5.0	5.0	5.0	4.3	4.4	4.3	-0.1	0.0	SMALL	SMALL
2.l./2.m.	course activities challenged students to think critically?	5.0	5.0	5.0	4.3	4.5	4.4	-0.1	-0.1	SMALL	SMALL
GENERAL INFORMATION How would you compare this course with other courses of similar credits at this level (i.e., 100, 200, 300, etc.) taken at CWU? Was the . . .											
3.a.	amount of work OUTSIDE of class / online environment	3.0	3.0	3.0	3.3	3.4	3.4	-0.1	-0.1	SMALL	SMALL
3.b.	level of engagement/active learning IN class / online environment	3.0	3.0	3.0	3.5	3.5	3.4	0.0	0.1	SMALL	SMALL
3.c.	intellectual challenge presented to you	3.0	4.0	3.0	3.5	3.7	3.5	-0.2	0.0	MEDIUM	SMALL

B. GENERAL INFORMATION

On average, students enrolled in face-to-face courses spend less time on course work outside of class sessions, have a class standing that is lower than students in interactive-video and online courses, and take more courses required for General Education. Students' expected grades are similar whether they take courses face-to-face, via interactive video, or online. See Table 5.

Table 5 - General Information Averages and Percentage Responses by Students in Face-to-Face, Interactive Video, and Online Courses (Major differences are highlighted)

For this class, about how many hours outside of the class did you spend in a typical 7-day week studying, reading, conducting research, writing, doing homework or lab work, analyzing data, rehearsing, and other academic activities (and participating online)? Note: The average is estimated from category midpoints.										
	Replied	0	1-3	4-6	7-10	11-15	16-20	21+	Average	
Face-to-face	27,860	2%	35%	36%	18%	6%	2%	1%	5.4	approx. hrs.per wk.
Interactive Video	854	0%	17%	33%	25%	15%	6%	4%	7.9	approx. hrs.per wk.
100% online	8,142	0%	14%	34%	26%	15%	7%	3%	8.0	approx. hrs.per wk.
Why did you take this course? Please mark all that apply.										
	Replied to >= 1	Major	Minor	Certificate	Gen Ed	Instructor	Time/Online	Interest	Other	
Face-to-face	29,687.	54%	8%	4%	28%	9%	9%	19%	4%	
Interactive Video	855.	78%	17%	5%	4%	11%	10%	17%	5%	
100% online	8,235.	70%	11%	4%	12%	7%	27%	20%	5%	
What is your class standing?										
	Replied	1st yr = 1	Soph. = 2	Junior=3	Senior=4	Grad.=5	Other	Avg.		
Face-to-face	27,692	24%	15%	30%	25%	4%	2%	2.6	Sophomore - Junior	
Interactive Video	1,009	2%	2%	31%	47%	13%	4%	3.7	Junior - Senior	
100% online	8,131	3%	5%	33%	46%	12%	2%	3.6	Junior - Senior	
What grade do you expect to earn in this course?										
	Replied	A = 4	B = 3	C = 2	D = 1	F = 0	Other	Avg.		
Face-to-face	27,780	49%	37%	11%	1%	0%	1%	3.3	expected grade	
Interactive Video	846	56%	37%	7%	1%	0%	0%	3.5	expected grade	
100% online	8,122.	64%	29%	5%	0%	0%	0%	3.5	expected grade	

It is interesting that the three instructional modalities have demographic differences among students, differences in the mixture of courses from colleges, and differences in course delivery methods, but still have strong and very similar results in course ratings.

V. SUMMARY

A. How did CWU students evaluate their instruction during 2015/16?

On average, student evaluations at CWU are very positive on all questions relating to “Student Learning Environment” and “Teaching for Student Learning.” Students in online and interactive-video courses gave median ratings of 5.0 (the highest possible rating) to all questions relating to Student Learning Environment and Teaching for Student Learning. Face-to-face students gave median responses of 5.0 to all but three questions:

- Instructor used a variety of methods, as needed, to make content clear
- Instructor provided useful feedback on student work
- Instructor provided timely feedback on student progress

B. Do course evaluations indicate any major differences in learning environment and instruction between courses taught face-to-face, via interactive video, or online?

No, all differences were very small when students were asked questions about “Student Learning Environment” or “Teaching for Student Learning.” Note: there are quite a few covariates:

- students in online and ITV courses were almost one year further advanced in class standing
- students in online and ITV courses reported that they spent more time per week on course work outside of class sessions
- students in online and ITV courses were less likely to take a course because it was a General Education requirement

C. CWU must improve university-wide response rates to online SEOs to have reliable results. Some departments have consistently higher response rates, but overall response rates need to improve.



APPENDIX 1

Terms, Acronyms, and Abbreviations

Hedge's g	A statistical measure of "effect size." "Effect size is a method of quantifying the difference between two groups that has some advantages over the use of tests of statistical significance alone." A pooled standard deviation is used as the denominator in this analysis. A pooled standard deviation is called for when the sample sizes of the variables studied are significantly different. See this conference presentation on effect size: http://www.leeds.ac.uk/educol/documents/00002182.htm Note: Some studies have indicated that Effect Size calculations with ordinal data may over-state the difference in means.
F2F	"Face-to-Face" refers to courses taught in traditional classrooms with students face-to-face with an instructor.
FAQ	Frequently asked questions
Form A	Form A is the SEOI form developed for students to evaluate lecture courses that meet face-to-face.
Form W	Form W is the SEOI (or course evaluation) form developed for students in courses taught 100% online.
ITV	Courses taught via synchronous, interactive video.
Likert scale	Many of the questions on CWU's course evaluations use a five point Likert scale arranged in a table format (a visual analog scale). For this analysis a response of "Strongly agree" is assigned a value of 5. A response of "Strongly disagree" is assigned a value of 1. Whether individual Likert items can be considered as interval-level data, or whether they should be considered merely ordered-categorical data is the subject of disagreement. This analysis assumes that the responses can be considered as interval data, especially since the Likert scale items are arranged in a visual analog format. The average or mean is a parametric statistic that is robust to ordinal data. Cohen's d may tent to overstate distances when ordinal data is used.
Median	Mid-point of ranked data. It is a statistical measure of central tendency. For example if the median is 5 on a five point scale, at least 50% of students answered 5.
Online	Courses taught 100% online.
SEOI	"Student Evaluation of Instruction." CWU's term for course evaluations
St Dev	An abbreviation for "standard deviation", a statistical measure of variability