



**CENTRAL WASHINGTON UNIVERSITY**

**COURSE EVALUATION COMPARISON  
2012/2013 Academic Year**

**An analysis of course evaluations (SEOs) submitted by students enrolled in courses taught face-to-face (F2F), via synchronous interactive video (ITV), and 100% online**

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## I. ABSTRACT

This report summarizes CWU course evaluations submitted during the 2012/2013 academic year (the fall 2012, winter 2013 and spring 2013 quarters). Evaluations from courses taught face-to-face in traditional classrooms (F2F), via synchronous interactive video (ITV), and “online” to students enrolled in courses taught 100% online are compared. The main research questions this report analyzes are:

- How do CWU students rate their instruction?
- Do course evaluations indicate any major differences in learning outcomes between courses taught 100% online, via interactive video, and lecture courses taught in-class, face-to-face?

Only results from Form A – Lecture and Form W – Online student evaluations were used. These two forms are similar and account for over 80% of all course evaluation responses. Results from Form C – Skills Acquisition, Form D – Lab, and Form E – Visual & Performing Arts are not included.

## II. EXECUTIVE SUMMARY

- CWU students’ average ratings of instruction during the 2012/2013 academic year were very positive.
- There is very little difference in the average ratings of students enrolled in interactive video (ITV) and online courses when compared to the average ratings of students enrolled in traditional face-to-face courses.

## III. BACKGROUND

During the spring 2012 quarter Central Washington University administered all course evaluations online for the first time. New forms developed by an SEOI Task Force were also used for the first time institution-wide. The course evaluation forms for online and face-to-face courses ask many of the same questions.

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

- [Form A 2010 - Lecture](#)
- [Form C 2010 - Skills Acquisition](#)
- [Form D 2010 - Laboratory](#)
- [Form E 2010 - Visual and Performing Arts](#)
- [Form W 2010 - Online](#)

An Online SEOI FAQ has information about the online course evaluation process and links to the final SEOI Task Force report: <http://www.cwu.edu/associate-provost/Online-SEOI>. The FAQ was updated based on questions that arose during the initial spring quarter.

## Overall Response Rates

The CWU-wide response rates have been decreasing. Spring 2013 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 1. Response Rates to Form A – Lecture and Form W Online**

	Spring 2012	Fall 2012	Winter 2013	Spring 2013
Form A – F2F & ITV	56%	57%	51%	41%
Form W - Online	62%	64%	62%	53%

**Table 2. 2012/2013 Academic Year Total Responses**

Course Format	Responses
Form A – Lecture: F2F responses	41,852
Form A – Lecture: ITV responses	1,514
Form W – Online responses	7,082

The response rates varied quite a bit by faculty and by department. The three quarterly reports in appendices show response rates by departments.

## IV. OVERALL RESULTS AND COMPARISON OF MEDIANS

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."

Most 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).

Table 2 summarizes the median responses to the first two question banks. All medians to every question for all quarters are either 4.0 (Agree) or 5.0 (Strongly agree). Medians of 4.0 are highlighted. The table shows:

- Online courses had the fewest medians below the maximum rating of 5.0
- The two weakest questions over the year were:
  - instructor used a variety of methods, as needed, to make content clear?
  - instructor provided useful feedback on student work?
- Winter 2012 was the weakest quarter for ITV and Online courses. This needs to be tracked in the future to see if seasonal patterns emerge.
- Conversely, the fall 2012 quarter was especially strong for ITV courses (all medians were 5.0) and online courses (only one question with a median below 5.0).
- The spring 2013 quarter was also strong for both ITV and Online courses

**Table 3. A Summary of Median Responses to “Student Learning Environment” and “Teaching for Student Learning.” Medians less than 5.0 are highlighted. (Note: F2f and ITV question numbers are on the left, online question numbers are on the right)**

2012/13 SEOI Medians  
 Face-to-face (F2F) vs. Interactive Video (ITV) vs. 100% Online  
 medians less than 5.0 are highlighted in tan

		FACE-TO-FACE			ITV			ONLINE		
		Fall 2012	Winter 2013	Spring 2013	Fall 2012	Winter 2013	Spring 2013	Fall 2012	Winter 2013	Spring 2013
<b>1 - STUDENT LEARNING ENVIRONMENT To what extent do you agree or disagree that the...</b>										
1.a./1.a.	instructor fostered a fair and respectful learning environment?	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
1.b./1.b.	instructor seemed genuinely concerned with whether students learned?	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
1.c./1.c.	standards of online behavior were clearly communicated and enforced?	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
1.g.	If YES, did the instructor provide help?	5.0	5.0	5.0	5.0	4.0	5.0	5.0	5.0	5.0
<b>2. TEACHING FOR STUDENT LEARNING To what extent do you agree or disagree that the....</b>										
2.a./2.a.	course objectives were clearly communicated?	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
2.b./2.b.	overall course content was presented in an understandable sequence?	5.0	4.0	4.0	5.0	4.0	5.0	5.0	5.0	5.0
2.c./2.c.	instructor used a variety of methods, as needed, to make content clear?	4.0	4.0	4.0	5.0	4.0	5.0	4.0	4.0	5.0
2.d./2.e.	assignments and tests were connected to course content?	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
2.e./2.f.	evaluation and grading techniques were clearly explained?	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
2.f./2.g.	instructions for class activities were clearly communicated?	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
2.g./2.h.	instructor provided useful feedback on student work?	4.0	4.0	4.0	5.0	4.0	4.0	5.0	4.0	4.0
2.h./2.h.	instructor provided timely feedback on student progress?	5.0	5.0	4.0	5.0	4.0	5.0	5.0	5.0	5.0
2.i./2.j.	class sessions (online activates) were well organized?	5.0	5.0	4.0	5.0	4.0	5.0	5.0	5.0	5.0
2.j./2.k.	out-of-class (online) work was useful in understanding course content?	5.0	4.0	4.0	5.0	4.0	5.0	5.0	5.0	5.0
2.k./2.l.	instructor encouraged students to connect course content to issues beyond classroom?	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
2.l./2.m.	course activities challenged students to think critically?	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0

## V. ANALYSIS OF AVERAGE RESPONSES

Table 3 presents a summary comparison of average responses to the first two question banks on the course evaluation forms for 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. All of the differences in averages were small (as measured by Cohen’s d distance) except for the fall 2012 quarter when four of the average ITV responses were moderately higher than face-to-face courses.

Cohen’s d effect size is a method of quantifying the difference between two groups. Effect sizes of 0.2 or less are often considered “small,” 0.3 to 0.8 are “medium” and 0.8 or higher are large. “Effect size is “simply a way of quantifying the size of the difference between two groups. It is easy to calculate, readily understood and can be applied to any measured outcome in Education or Social Science.” (See: <http://www.leeds.ac.uk/educol/documents/00002182.htm> Downloaded 7/16/2013.)

The highest average of the three teaching methods for each question during each quarter is highlighted in grey. Any effect size larger than small is highlighted in tan. Note that:

- the highest average for all questions were from ITV courses during the fall 2012 term
- In subsequent terms ITV and online courses had most of the high averages
- Almost all of the differences in averages are small
- The make-up of courses delivered with the three methods differs quite a bit as do the student demographics (see section VI for those details)

Note: CWU used two Learning Management Systems to deliver online courses during the spring 2013 quarter. The effect seems to be minimal. There were seven online sections using Canvas that had SEOI responses. The overall response rate was 55%. Any differences in course evaluations between Canvas and Blackboard should be tracked in the future.

(The left question number in the left column is the F2F and ITV question number for Form A. Form W (for online courses) is slightly different and the right question number corresponds to Form W)

Table 4. Comparison of Average Responses from Face-to-Face, Interactive Video, and Online Courses.

2012-2013 Academic Year SEOI Results Face-to-face (F2F) vs. Interactive Video (ITV) vs. 100% Online Highest Averages are Highlighted		FALL 2012			WINTER 2013			SPRING 2013			COHEN'S d DIFFERENCE IN AVERAGES		
		F2F Average	ITV Average	Online Average	F2F Average	ITV Average	Online Average	F2F vs. ITV	F2F vs. Online	F2F vs. ITV	F2F vs. Online	F2F vs. ITV	F2F vs. Online
<b>1. STUDENT LEARNING ENVIRONMENT</b> To what extent do you agree or disagree that the...													
1.a./1.a.	instructor fostered a fair and respectful learning environment?	4.49	4.59	4.47	4.48	4.51	4.43	4.45	4.39	4.42	SMALL	SMALL	SMALL
1.b./1.b.	instructor seemed genuinely concerned with whether students learned?	4.37	4.43	4.35	4.36	4.37	4.32	4.32	4.26	4.28	SMALL	SMALL	SMALL
1.c./1.c.	standards of online behavior were clearly communicated and enforced?	4.41	4.57	4.48	4.40	4.39	4.43	4.36	4.25	4.37	SMALL	SMALL	SMALL
1.f.	If YES, did the instructor provide help?	4.33	4.44	4.28	4.28	4.17	4.29	4.30	4.35	4.24	SMALL	SMALL	SMALL
<b>2. TEACHING FOR STUDENT LEARNING</b> To what extent do you agree or disagree that the...													
2.a./2.a.	course objectives were clearly communicated?	4.37	4.56	4.47	4.32	4.31	4.42	4.32	4.34	4.39	MED.	SMALL	SMALL
2.b./2.b.	overall course content was presented in an understandable sequence?	4.26	4.43	4.39	4.22	4.24	4.34	4.22	4.18	4.35	SMALL	SMALL	SMALL
2.c./2.c.	instructor used a variety of methods, as needed, to make content clear?	4.17	4.28	4.22	4.15	4.19	4.21	4.14	4.11	4.20	SMALL	SMALL	SMALL
2.d./2.e.	assignments and tests were connected to course content?	4.42	4.51	4.49	4.40	4.42	4.48	4.39	4.35	4.49	SMALL	SMALL	SMALL
2.e./2.f.	evaluation and grading techniques were clearly explained?	4.27	4.50	4.34	4.23	4.27	4.31	4.23	4.18	4.30	MED.	SMALL	SMALL
2.f./2.g.	instructions for class activities were clearly communicated?	4.29	4.44	4.34	4.25	4.29	4.30	4.25	4.20	4.28	SMALL	SMALL	SMALL
2.g./2.h.	instructor provided useful feedback on student work?	4.15	4.26	4.20	4.13	4.12	4.18	4.12	4.02	4.13	SMALL	SMALL	SMALL
2.h./2.h.	instructor provided timely feedback on student progress?	4.18	4.32	4.19	4.19	4.14	4.20	4.16	4.16	4.06	SMALL	SMALL	SMALL
2.i./2.j.	class sessions (online activities) were well organized?	4.25	4.39	4.34	4.22	4.19	4.32	4.21	4.16	4.28	SMALL	SMALL	SMALL
2.j./2.k.	out-of-class (online) work was useful in understanding course content?	4.24	4.39	4.32	4.22	4.22	4.30	4.21	4.22	4.30	SMALL	SMALL	SMALL
2.k./2.l.	instructor encouraged students to connect course content to issues beyond classroom?	4.32	4.49	4.33	4.32	4.36	4.31	4.33	4.27	4.29	SMALL	SMALL	SMALL
2.l./2.m.	course activities challenged students to think critically?	4.33	4.51	4.37	4.33	4.40	4.39	4.31	4.30	4.37	SMALL	SMALL	SMALL
<b>GENERAL INFORMATION</b>													
How would you compare this course with other courses of similar credits at this level (i.e., 100, 200, 300, etc.) taken at OWU? Was the...													
3.a.	amount of work OUTSIDE of class / online environment	3.35	3.54	3.48	3.42	3.54	3.46	3.41	3.42	3.47	MED.	SMALL	SMALL
3.b.	level of engagement/active learning IN class / online environment	3.44	3.61	3.39	3.46	3.53	3.40	3.47	3.41	3.39	SMALL	SMALL	SMALL
3.c.	intellectual challenge presented to you	3.49	3.80	3.52	3.54	3.70	3.53	3.53	3.59	3.49	MED.	SMALL	SMALL

## VI. GENERAL QUESTIONS

Some exogenous factors varied from one teaching method to another. For example:

- The average student in an ITV and online course has between junior and senior standing. The average student in a F2F course is between a sophomore and junior
- Students in ITV and F2F courses report studying more outside of class
- A higher percentage of students in F2F courses report taking a course because it is a General Education requirement
- The make-up of departments using the different teaching methods varies quite a bit

**TABLE 5. RESPONSES TO GENERAL QUESTIONS ON STUDENT EVALUATIONS OF INSTRUCTION**

This table summarizes all responses during the fall 2012, winter 2013, and spring 2013 quarter.

CENTRAL WASHINGTON UNIVERSITY STUDENT EVALUATIONS OF INSTRUCTION  
DEMOGRAPHICS - All Responses, Fall 2012 through Spring 2013

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)? DNA = did not answer. The average is estimated from category midpoints.											
	- n -	0	1-3	4-6	7-10	11-15	16-20	21+	DNA	Average	
F2F	41,852	2%	30%	32%	18%	7%	2%	1%	7%	5.34	hrs. / wk.
ITV	1,514	1%	17%	28%	28%	15%	7%	3%	0%	8.04	hrs. / wk.
Online	7,082	0%	14%	33%	27%	14%	7%	3%	3%	7.76	hrs. / wk.
Why did you take this course? Please mark all that apply.											
	- n -	Major	Minor	Certi- ficate	Gen Ed	Instruc- tor	Time / Online	Interest	Other		
F2F	41,852	55%	9%	4%	25%	8%	9%	15%	4%		
ITV	1,514	68%	14%	4%	8%	10%	11%	18%	4%		
Online	7,082	63%	11%	3%	14%	6%	26%	20%	5%		
What is your class standing? DNA is Did not answer											
	- n -	1st yr	Soph.	Junior	Senior	Grad.	Other	DNA	Average		
F2F	41,852	17%	14%	28%	29%	3%	2%	8%	2.6		Sophomore - Junior
ITV	1,514	3%	3%	35%	43%	12%	3%	1%	3.5		Junior - Senior
Online	7,082	2%	4%	36%	48%	5%	2%	3%	3.3		Junior - Senior
What grade do you expect to earn in this course? DNA is Did not answer											
	- n -	- A -	- B -	- C -	- D -	- F -	Other	DNA	Average		
F2F	41,852	45%	34%	11%	1%	0%	1%	7%	3.0		expected grade
ITV	1,514	48%	41%	9%	1%	0%	0%	1%	3.3		expected grade
Online	7,082	51%	34%	9%	1%	0%	2%	3%	3.3		expected grade

**Table 6. Departmental SEOI Responses as the Percent of Total Responses**

This table summarizes all responses during the fall 2012, winter 2013, and spring 2013 quarter.

Dept.	F2F	ITV	Online
ABS	0.1%		
ACCT	2.6%	19.6%	
ACSK	3.0%		
AFRO	0.4%		
AIS	0.4%	0.5%	
ANTH	2.6%	1.3%	2.4%
AP		0.7%	1.5%
ART	0.3%		1.0%
AST	0.1%		
AVIA	0.9%		
BIOL	4.7%		
CDS	0.2%		
CHEM	3.1%		
CNED	0.9%	0.2%	0.4%
COM	2.1%		2.3%
CS	1.4%		0.2%
DHC	1.0%		
ECON	1.7%	6.1%	
ECTL			0.2%
EFC	3.2%	1.5%	2.3%
ENG	6.2%		2.7%
FCS	2.6%	1.8%	2.9%
FIN	2.7%	5.9%	
FNLA	2.3%		
GEOG	2.7%		0.1%
GEOL	2.1%		0.5%
HIST	1.6%		1.1%
IDS	0.0%		3.1%

Dept.	F2F	ITV	Online
IET	3.4%		0.7%
ITAM	2.5%	8.3%	30.6%
LAJ	2.6%	4.8%	7.2%
LC	1.0%		
LIB			0.3%
LLAS	0.1%		
LLSE	3.3%	0.6%	0.5%
MANA	2.3%	20.3%	4.3%
MATH	6.1%		0.9%
MCNA	0.0%		
MLS	0.3%		
MUS	1.5%		
NEHS	4.6%	0.3%	4.5%
PESPH	3.2%		3.9%
PHIL	3.0%	1.7%	0.5%
PHYS	1.1%		
POSC	0.9%		1.0%
PRIM	0.1%		
PSY	5.5%	13.6%	10.3%
REM	0.2%		
SCED	0.8%	1.1%	
SHP	0.1%		
SOC	2.5%	8.8%	13.2%
STEP	0.2%		
TEACH	1.9%	1.2%	0.1%
TH	3.7%	1.9%	0.6%
WS	0.1%		0.3%
Other			0.5%
<b>Total %</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
<b>Total n</b>	<b>41,852</b>	<b>1,514</b>	<b>7,082</b>

Note that:

- Over 50% of the ITV courses enrollments are from the College of Business.
- Over 30% of the online course enrollments are from one department, Information Technology and Administrative Management.



## VIII. SUMMARY

### A. How did CWU students evaluate their instruction during the 2012/2013 academic year?

Student Evaluations of Instruction at CWU are very positive with average results between Agree and Strongly Agree (the best possible rating) on all questions relating to student learning environment and teaching for student learning.

### B. Do course evaluations indicate any major differences in learning outcomes between courses taught 100% online and lecture courses taught in-class, face-to-face?

There is not sufficient evidence to conclude that students rate courses differently based on their delivery method, i.e., face-to-face in classrooms, via synchronous interactive video, or online. This analysis did not adjust for covariates, e.g., differences in departmental make-up of enrollments.

### C. How can CWU improve the response rates to online SEOIs?

CWU should go back to administering SEOIs over a two week period to improve response rates.

### D. Where do Course Evaluations Indicate that CWU needs to Improve?

- instructor used a variety of methods, as needed, to make content clear?
- instructor provided useful feedback on student work?

**APPENDIX 1**  
Terms, Acronyms, and Abbreviations

Cohen's d	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: <a href="http://www.leeds.ac.uk/educol/documents/00002182.htm">http://www.leeds.ac.uk/educol/documents/00002182.htm</a> Note: Some studies have indicated that Effect Size calculations with ordinal data may over-state the difference in means.
End-point scale	CWU's bubble sheet surveys used before the spring 2012 quarter used mostly "end point" question scales. For example students were asked to respond from 5=Always, 4, 3, 2, 1 = Never. Endpoint scales give interval data because the intervals between values are all equal. Statistical measures used with continuous data (means and standard deviations) are valid with end-point scales and are usually robust to ordinal data.
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 evaluation 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 using Blackboard.
ITV	Courses transmitted via video synchronously.
Likert scale	Most 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.
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 via Blackboard or Canvas, usually asynchronously.
SEOI	"Student Evaluation of Instruction" CWU's term for course evaluations
St Dev	An abbreviation for "standard deviation" a statistical measure of variability

## **APPENDIX 2**

### **FALL 2012 COMPARISON OF FACE-TO-FACE (F2F), INTERACTIVE VIDEO (ITV), AND 100% ONLINE COURSE EVALUATIONS**



**CENTRAL WASHINGTON UNIVERSITY**

**FALL 2012 COURSE EVALUATION RESULTS**

**Amended 7-17-2013**

**An analysis of course evaluations submitted by students enrolled in courses taught face-to-face (F2F), via synchronous interactive video (ITV), and 100% online**

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## I. ABSTRACT

The fall 2012 quarter was the second quarter that Central Washington University administered all course evaluations online using new course evaluation forms. This report compares the evaluations of students enrolled in courses taught face-to-face in traditional classrooms (F2F), via synchronous interactive TV (ITV), and “online” to students enrolled in courses taught 100% online via Blackboard. The main research questions this report analyzes are:

- How do CWU students rate their instruction?
- Do course evaluations indicate any major differences in learning outcomes between courses taught 100% online, via interactive video, and lecture courses taught in-class, face-to-face?

## II. EXECUTIVE SUMMARY

- CWU students’ average ratings of instruction during the fall 2012 quarter were, on average, very positive.
- Student evaluations of online courses and ITV courses are very similar to the ratings of students in face-to-face courses.

## III. BACKGROUND

During the spring 2012 quarter Central Washington University administered all course evaluations online for the first time. New forms developed by an SEOI Task Force were also used for the first time institution-wide. The course evaluation forms for online and face-to-face courses ask many of the same questions.

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

- [Form A 2010 - Lecture](#)
- [Form C 2010 - Skills Acquisition](#)
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An Online SEOI FAQ has information about the online course evaluation process and links to the final SEOI Task Force report: <http://www.cwu.edu/associate-provost/Online-SEOI>. The FAQ was updated based on questions that arose during the initial spring quarter. Most 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 average response rates to the course evaluations were similar for online courses and lecture courses.

**Table 1. Response Rates to Form A – Lecture and Form W Online**

	Spring 2012	Fall 2012
Form A - Lecture	56%	57%
Form W - Online	62%	64%

The response rates varied quite a bit by faculty and by department. Appendix II shows average response rate by SEOI forms for all CWU departments.

**IV. OVERALL RESULTS AND COMPARISON OF MEDIANS**

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.” With the exception of three questions (see below) all medians were the best possible (5 on a scale of 1 to 5) indicating that over 50% of the students gave the best possible rating.

**Table 2. A Summary of Median Responses to “Student Learning Environment” and “Teaching for Student Learning”**

<b>F2F</b>	All medians were 5 (the highest possible rating) except for two questions: 2.c. instructor used a variety of methods, as needed, to make content clear? 2.g. instructor provided useful feedback on student work?
<b>ITV</b>	All medians were the best possible rating of 5.
<b>ONLINE</b>	All medians were 5 except for: 2.c. instructor used a variety of methods, as needed, to make content clear?

**V. ANALYSIS OF AVERAGE RESPONSES**

Table 3. presents a detailed comparison of results from face-to-face, interactive video, and online courses. Note: only the sixteen questions that have exactly the same text on both SEOI forms (Form A – Lecture and Form W – Online) are listed. All of the differences in averages were small except for question 3.c. the “Intellectual challenge presented to you” of courses of similar level taken at CWU. The average rating for F2F courses was 3.49; the average for ITV courses was 3.8. Students in ITV courses report that their courses are more intellectually challenging. The difference is moderate or “medium.”.

Cohen’s d effect size is a method of quantifying the difference between two groups. Effect sizes of .2 to .3 are often considered “small,” .3 to .5 are “medium” and .5 or higher are large.

**Table 3. Comparison of Average Responses of Face-to-Face, Interactive Video, and Online Courses**

CENTRAL WASHINGTON UNIVERSITY Fall 2012 SEOI Results - Face-to-Face (F2F) vs. Interactive Video (ITV) vs. Online Courses		F2F Responses	ITV Responses	Online Responses	F2F St. Dev.	ITV St. Dev.	Online St. Dev.	F2F Mean	ITV Mean	Online Mean	Cohen's d - F2F vs. ITV	Difference in F2F & ITV	Cohen's d - F2F vs. Online	Difference in F2F & Online
<b>1. STUDENT LEARNING ENVIRONMENT To what extent do you agree or disagree that the...</b>														
1.a.	Instructor fostered a fair and respectful learning environment?	16,552	482	2,156	0.81	0.72	0.77	4.49	4.59	4.47	0.12	0.02	small	small
1.b.	Instructor seemed genuinely concerned with whether students learned?	16,499	481	2,148	0.93	0.88	0.90	4.37	4.43	4.35	0.07	0.01	small	small
1.c.	standards of classroom (or online behavior) were clearly communicated and enforced?	16,445	477	2,143	0.85	0.71	0.78	4.41	4.57	4.48	0.18	0.08	small	small
1.f.	IF YES, did the instructor provide help?	9,483	297	1,518	0.90	0.84	0.96	4.33	4.44	4.28	0.13	0.05	small	small
<b>2. TEACHING FOR STUDENT LEARNING To what extent do you agree or disagree that the...</b>														
2.a.	course objectives were clearly communicated?	16,454	479	2,145	0.85	0.71	0.75	4.37	4.56	4.47	0.22	0.13	small	small
2.b.	overall course content was presented in an understandable sequence?	16,419	480	2,142	0.97	0.88	0.84	4.26	4.43	4.39	0.18	0.14	small	small
2.c.	instructor used a variety of methods, as needed, to make content clear?	16,407	480	2,139	1.04	0.97	0.95	4.17	4.28	4.22	0.11	0.05	small	small
2.d./2.e.	assignments and tests were connected to course content?	16,421	477	2,141	0.82	0.79	0.75	4.42	4.51	4.49	0.11	0.08	small	small
2.e./2.f.	evaluation and grading techniques were clearly explained?	16,428	477	2,139	0.97	0.76	0.93	4.27	4.50	4.34	0.24	0.07	small	small
2.f./2.g.	instructions for class activities were clearly communicated?	16,416	476	2,143	0.94	0.83	0.91	4.29	4.44	4.34	0.17	0.05	small	small
2.g./2.h.	instructor provided useful feedback on student work?	16,419	479	2,144	1.06	0.97	1.04	4.15	4.26	4.20	0.11	0.05	small	small
2.h./2.i.	instructor provided timely feedback on student progress?	16,404	479	2,140	1.03	0.96	1.07	4.18	4.32	4.19	0.13	0.00	small	small
2.i./2.j.	class sessions (online activities) were well organized?	16,403	479	2,137	0.98	0.88	0.92	4.25	4.39	4.34	0.14	0.10	small	small
2.j./2.k.	out of class (off-line) work was useful in understanding course content? (	16,373	477	2,128	0.97	0.86	0.87	4.24	4.39	4.32	0.15	0.09	small	small
2.k./2.l.	instructor encouraged students to connect course content to issues beyond classroom?	16,344	476	2,133	0.92	0.79	0.89	4.32	4.49	4.33	0.19	0.01	small	small
2.l./2.m.	course activities challenged students to think critically?	16,244	472	2,109	0.91	0.75	0.85	4.33	4.51	4.37	0.20	0.05	small	small
<b>GENERAL INFORMATION</b>														
<b>How would you compare this course with all other courses of similar credits at this level (i.e., 100-, 200-, 300-, etc.) taken at CWU? Was the...</b>														
3.a./4.a.	amount of work OUTSIDE of class	15,829	480	2,125	0.91	0.87	0.80	3.35	3.54	3.48	0.21	0.15	small	small
3.b./4.b.	level of engagement/active learning in class	15,691	476	2,105	0.93	0.91	0.82	3.44	3.61	3.39	0.18	0.05	small	small
3.c./4.c.	intellectual challenge presented to you	15,681	475	2,098	0.96	0.86	0.84	3.49	3.80	3.52	0.31	0.03	med	small
<b>For this class, about how many hours outside of 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?</b>														
4./5.	Hours (DNA is the percent that did not answer)	0	1-3	4-6	7-10	11-15	16-20	21+	DNA	Avg.				
	Face-to-face courses	3%	30%	32%	17%	7%	2%	1%	8%	5.66	hours per week			
	Interactive TV courses	0%	14%	27%	30%	17%	7%	3%	1%	8.42	hours per week			
	100% Online courses	1%	13%	34%	27%	15%	7%	3%	1%	8.15	hours per week			
<b>5./6. Why did you take this course? Please mark all that apply.</b>														
	Major	Minor	Certificate	GenEd	Faculty	Time	Inter-ested	Other	- n -					
	Face-to-face courses	52%	4%	8%	28%	6%	8%	15%	4%	15,278				
	Interactive TV courses	44%	8%	1%	5%	6%	8%	14%	3%	484				
	100% Online courses	64%	12%	3%	14%	6%	N/A	20%	4%	2,160				
<b>6./7. What is your class standing?</b>														
	1st year	Soph.	Junior	Senior	Grad	Other	DNA	- n -	Avg.					
	Face-to-face courses	20%	13%	26%	27%	3%	2%	9%	17,278	2.5	Soph +			
	Interactive TV courses	3%	2%	33%	46%	13%	3%	1%	484	3.5	Junior +			
	100% Online courses	2%	5%	33%	51%	5%	2%	2%	2,160	3.6	Junior +			
<b>7./8. What grade do you expect to earn in this class?</b>														
	- A -	- B -	- C -	- D -	- F -	Other	DNA	- n -	Avg.					
	Face-to-face courses	43%	34%	11%	1%	0%	8%	17,278	3.00	B				
	Interactive TV courses	48%	40%	10%	2%	0%	0%	484	3.33	B+				
	100% Online courses	49%	37%	9%	1%	0%	1%	2,160	3.28	B				

**Table 3. (continued) Comparison of Average Responses of Face-to-Face, Interactive Video, and Online Courses**

For this class, about how many hours outside of 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?											
4./5.	Hours (DNA is the percent that did not answer)	0	1-3	4-6	7-10	11-15	16-20	21+	DNA	Avg.	
	Face-to-face courses	3%	30%	32%	17%	7%	2%	1%	8%	5.66	hours per week
	Interactive TV courses	0%	14%	27%	30%	17%	7%	3%	1%	8.42	hours per week
	100% Online courses	1%	13%	34%	27%	15%	7%	3%	1%	8.15	hours per week
5./6. Why did you take this course? Please mark all that apply.											
		Major	Minor	Certificate	GenEd	Faculty Reputation	Time of day	Inter-ested	Other	- n -	
	Face-to-face courses	52%	8%	4%	28%	6%	8%	15%	4%	15,278	
	Interactive TV courses	44%	8%	1%	5%	6%	8%	14%	3%	484	
	100% Online courses	64%	12%	3%	14%	6%	N/A	20%	4%	2,160	
6./7. What is your class standing?											
	<i>note: DNA is short for "Did not answer."</i>	1st year	Soph.	Junior	Senior	Grad	Other	DNA	- n -	Avg.	
	Face-to-face courses	20%	13%	26%	27%	3%	2%	9%	17,278	2.5	Soph +
	Interactive TV courses	3%	2%	33%	46%	13%	3%	1%	484	3.5	Junior +
	100% Online courses	2%	5%	33%	51%	5%	2%	2%	2,160	3.6	Junior +
7./8. What grade do you expect to earn in this class?											
	<i>note: DNA is short for "Did not answer."</i>	- A -	- B -	- C -	- D -	- F -	Other	DNA	- n -	Avg.	
	Face-to-face courses	43%	34%	11%	1%	0%	1%	8%	17,278	3.00	B
	Interactive TV courses	48%	40%	10%	2%	0%	0%	0%	484	3.33	B+
	100% Online courses	49%	37%	9%	1%	0%	2%	1%	2,160	3.28	B

**VI. GENERAL INFORMATION**

The differences in average responses for the first two question banks were small for all questions regardless of how the course was taught, i.e., face-to-face, via interactive video, or online. The only results that had even a medium distance (analogous to difference) was that, on average, students in ITV courses reported a higher intellectual challenge (question 3.c.) than students in face-to-face courses.

Note that the ITV and online courses had, on average, fewer General Education courses. Also students in ITV and online courses reported studying more per week and they had, on average, higher class standings than students in face-to-face courses. ITV and online classes had a lower percent of students who did not answer the questions.



## VIII. SUMMARY

- A. How did CWU students evaluate their instruction during the spring 2012 term?

On average, student evaluations at CWU are very positive with average results between Agree and Strongly Agree (the best possible rating) on all questions relating to student learning environment and teaching for student learning.

- E. Do course evaluations indicate any major differences in learning outcomes between courses taught 100% online and lecture courses taught in-class, face-to-face?

No – not when students were asked questions about “Student Learning Environment” or “Teaching for Student Learning.”

- F. One area where CWU could focus improvement is feedback to students.

The question with the lowest rating for face-to-face students and for ITV students was: “To what extent do you agree or disagree that the instructor provided useful feedback on student work?”

The question with the lowest rating for online students was: “To what extent do you agree or disagree that the instructor provided timely feedback on student progress?”

## Fall 2012 APPENDIX 1 (of Fall 2012 Report)

### Terms, Acronyms, and Abbreviations

Cohen's d	A statistical measure of "effect size." "Effect size is a simple way of quantifying the difference between two groups that has many 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: <a href="http://www.leeds.ac.uk/educol/documents/00002182.htm">http://www.leeds.ac.uk/educol/documents/00002182.htm</a> Note: Some studies have indicated that Effect Size calculations with ordinal data may over-state the effect size.
End-point scale	CWU's bubble sheet surveys used before the spring 2012 quarter used mostly "end point" question scales. For example students were asked to respond from 5=Always, 4, 3, 2, 1 = Never. Endpoint scales give interval data because the intervals between values are all equal. Statistical measures used with continuous data (means and standard deviations) as valid with end-point scales.
F2F	"face-to-face" usually refers to courses taught in traditional classrooms
FAQ	Frequently asked questions
Form A	Form A is the SEOI form developed for students to evaluation 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 using Blackboard.
Likert scale	Most 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.
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.
SEOI	"Student Evaluation of Instruction" CWU's term for course evaluations
St Dev	An abbreviation for "standard deviation" a statistical measure of variability
Text mining or text analytics	The analysis of data containing natural language (such are written comments to survey questions). A program called "WordStat" was used to analyze frequent phrases and

**Fall 2012 APPENDIX 2 (of Fall 2012 Report)**

**SEOI RESPONSE RATES BY FORM BY DEPARTMENT**

## FALL 2012 SEOI RESPONSE RATES BY DEPARTMENT

### FORM A – LECTURE

**Overall Response Rate = 57%**

Department	Surveyed	Replies	Response Rate
POSC	327	128	39%
MLS	165	73	44%
CS	531	249	47%
CDS	19	9	47%
FCS	905	446	49%
COM	697	347	50%
LAI	907	463	51%
GEOG	738	386	52%
ABS	42	22	52%
NEHS	1,303	687	53%
AVIA	318	169	53%
MATH	1,964	1,051	54%
TH	549	297	54%
ECON	597	325	54%
ANTH	690	376	54%
GEOG	603	330	55%
PHIL	889	495	56%
PESPH	939	523	56%
HIST	508	283	56%
PHYS	288	162	56%
MUS	489	276	56%
ENG	1,765	1,001	57%
LC	407	231	57%
SCED	157	90	57%
MANA	735	423	58%
WS	33	19	58%
AFRO	85	49	58%
CHEM	854	496	58%
CNED	210	122	58%
FNLA	716	422	59%
IET	857	506	59%
PSY	1,780	1,061	60%
ART	90	55	61%
ACSK	1,478	906	61%
ACCT	843	517	61%
SOC	724	444	61%
LLSE	853	524	61%
AST	40	25	63%
BIOL	892	560	63%
TEACH	393	248	63%
EFC	1,094	703	64%
FIN	652	438	67%
ITAM	648	439	68%
LLAS	38	26	68%
MCNA	14	10	71%
DHC	181	134	74%

**Fall 2012 SEOI RESPONSE RATES BY DEPARTMENT**

**FORM C – SKILLS ACQUISITION**

**Overall Response Rate = 48%**

Dept.	Surveyed	Replies	Response Rate
TH	185	81	44%
PESPH	1,598	738	46%
COM	423	200	47%
GEOL	10	5	50%
AVIA	86	44	51%
NEHS	122	66	54%
GEOG	33	18	55%
IET	97	53	55%
CHEM	5	3	60%
ENG	43	26	60%
ANTH	12	8	67%
BIOL	49	37	76%
LIB	13	11	85%

**FORM D – LAB**

**Overall Response Rate = 51%**

Dept.	Surveyed	Replies	Rate Ascending
COM	43	13	30%
TH	5	2	40%
PESPH	10	4	40%
GEOL	228	100	44%
BIOL	73	34	47%
FCS	15	7	47%
AFRO	69	33	48%
NEHS	717	356	50%
CHEM	635	339	53%
PSY	425	246	58%
ANTH	40	28	70%

**Fall 2012 SEOI RESPONSE RATES BY DEPARTMENT**

**FORM E – VISUAL & PERFORMING ARTS**

**Overall Response Rate = 45%**

Dept.	Surveyed	Replies	Response Rates
ART	423	171	40.43%
TH	181	75	41.44%
MUS	1,424	658	46.21%

**FORM W – ONLINE**

**Overall Response Rate = 64%**

Dept.	Surveyed	Replies	Response Rate
TEACH	6	3	50%
LAJ	255	135	53%
LIB	16	9	56%
FCS	130	74	57%
ART	69	41	59%
PESPH	139	83	60%
WS	25	15	60%
NEHS	103	62	60%
COM	46	28	61%
EFC	47	29	62%
MANA	180	114	63%
SOC	467	299	64%
IDS	120	77	64%
PSY	338	223	66%
ENG	86	57	66%
MATH	12	8	67%
ITAM	1,013	683	67%
AP	66	45	68%
HIST	66	46	70%
GEOL	24	17	71%
POSC	22	16	73%
ANTH	109	84	77%
LLSE	10	8	80%

## **APPENDIX 3**

### **WINTER 2013 COMPARISON OF FACE-TO-FACE (F2F), INTERACTIVE VIDEO (ITV), AND 100% ONLINE COURSE EVALUATIONS**



**CENTRAL WASHINGTON UNIVERSITY**

**WINTER 2013 COURSE EVALUATION COMPARISON**

**An analysis of course evaluations submitted by students enrolled in courses taught face-to-face (F2F), via synchronous interactive video (ITV), and 100% online**

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## I. ABSTRACT

All CWU course evaluations were administered online during the winter 2013 quarter. This report compares the evaluations 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 analyzes are:

- How do CWU students rate their instruction?
- Do course evaluations indicate any major differences in learning outcomes between courses taught 100% online, via interactive video, and lecture courses taught in-class, face-to-face?

## II. EXECUTIVE SUMMARY

- CWU students’ average ratings of instruction during the winter 2013 quarter were, on average, very positive.
- Student evaluations of online courses and ITV courses are very similar to the ratings of students in face-to-face courses.

## III. BACKGROUND

During the spring 2012 quarter Central Washington University administered all course evaluations online for the first time. New forms developed by an SEOI Task Force were also used for the first time institution-wide. The course evaluation forms for online and face-to-face courses ask many of the same questions.

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

- [Form A 2010 - Lecture](#)
- [Form C 2010 - Skills Acquisition](#)
- [Form D 2010 - Laboratory](#)
- [Form E 2010 - Visual and Performing Arts](#)
- [Form W 2010 - Online](#)

An Online SEOI FAQ has information about the online course evaluation process and links to the final SEOI Task Force report: <http://www.cwu.edu/associate-provost/Online-SEOI>. The FAQ was updated based on questions that arose during the initial spring quarter. Most 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).

## Overall Response Rates

The CWU-wide response rates dropped.

**Table 1. Response Rates to Form A – Lecture and Form W Online**

	Spring 2012	Fall 2012	Winter 2013
Form A – F2F & ITV	56%	57%	51%
Form W - Online	62%	64%	62%

The response rates varied quite a bit by faculty and by department. Appendix 2 shows average response rate by SEOI forms for all CWU departments.

## IV. OVERALL RESULTS AND COMPARISON OF MEDIANS

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."

Table 3 summarizes the median responses to the first two question banks. ITV and online students gave a median of 5.0 to most questions (questions with medians of four are highlighted). A median of 5.0 means that 50% or more of the students gave the best possible rating of 5.0.

The medians for F2F students were not quite as strong in the "Teaching for Student Learning" section. The following questions had medians of 4.0:

**Table 2. Questions with medians of 4.0 on all SEOIs: TEACHING FOR STUDENT LEARNING To what extent do you agree or disagree that the....**

2.c.	instructor used a variety of methods, as needed, to make content clear?
2.g.	instructor provided useful feedback on student work?

**Table 3. A Summary of Median Responses to “Student Learning Environment” and “Teaching for Student Learning.”** (Note: F2f and ITV question numbers are on the left, online question numbers are on the right)

Winter 2013 SEOI Results Face-to-face (F2F) vs. Interactive Video (ITV) vs. 100% Online		F2F No. Responses	ITV No. Responses	Online No. Responses	F2F median	ITV median	Online median
<b>1 - STUDENT LEARNING ENVIRONMENT To what extent do you agree or disagree that the...</b>							
1.a./1.a.	instructor fostered a fair and respectful learning environment?	13,379	503	2,673	5.0	5.0	5.0
1.b./1.b.	instructor seemed genuinely concerned with whether students learned?	13,312	499	2,658	5.0	5.0	5.0
1.c./1.c.	standards of online behavior were clearly communicated and enforced?	13,287	498	2,655	5.0	5.0	5.0
1.g.	If YES, did the instructor provide help?	7,534	315	1,846	5.0	4.0	5.0
<b>2. TEACHING FOR STUDENT LEARNING To what extent do you agree or disagree that the....</b>							
2.a./2.a.	course objectives were clearly communicated?	13,305	504	2,656	5.0	5.0	5.0
2.b./2.b.	overall course content was presented in an understandable sequence?	13,278	502	2,646	4.0	4.0	5.0
2.c./2.c.	<b>instructor used a variety of methods, as needed, to make content clear?</b>	<b>13,279</b>	<b>503</b>	<b>2,653</b>	<b>4.0</b>	<b>4.0</b>	<b>4.0</b>
2.d./2.e.	assignments and tests were connected to course content?	13,277	501	2,656	5.0	5.0	5.0
2.e./2.f.	evaluation and grading techniques were clearly explained?	13,282	502	2,658	5.0	5.0	5.0
2.f./2.g.	instructions for class activities were clearly communicated?	13,279	502	2,658	5.0	5.0	5.0
2.g./2.h.	<b>instructor provided useful feedback on student work?</b>	<b>13,287</b>	<b>502</b>	<b>2,659</b>	<b>4.0</b>	<b>4.0</b>	<b>4.0</b>
2.h./2.h.	instructor provided timely feedback on student progress?	13,283	500	2,652	5.0	4.0	5.0
2.i./2.j.	class sessions (online activities) were well organized?	13,277	499	2,650	5.0	4.0	5.0
2.j./2.k.	out-of-class (online) work was useful in understanding course content?	13,249	499	2,642	4.0	4.0	5.0
2.k./2.l.	instructor encouraged students to connect course content to issues beyond classroom?	13,243	498	2,638	5.0	5.0	5.0
2.l./2.m.	course activities challenged students to think critically?	13,159	490	2,609	5.0	5.0	5.0
<b>GENERAL INFORMATION</b>							
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	12,881	500	2,595	3.0	3.0	3.0
3.b.	level of engagement/active learning IN class / online environment	12,666	494	2,562	3.0	3.0	3.0
3.c.	intellectual challenge presented to you	12,616	491	2,555	3.0	4.0	3.0

## V. ANALYSIS OF AVERAGE RESPONSES

Table 5 presents a detailed 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. All of the differences in averages were small.

Cohen's *d* effect size is a method of quantifying the difference between two groups. Effect sizes of 0.2 or less are often considered "small" for this study, 0.3 to 0.8 are "medium" and 0.8 or higher are large.

A large portion of the ITV SEOI responses (42%) are from the College of Business. One department, Information Technology and Administrative Management (ITAM) dominates the online responses with 30% of the total. These differences don't seem to have a large impact on the average question ratings. See Table 4 for a summary.

**Table 4. Departmental SEOI Responses as the Percent of Total Responses**

SEOI Responses			
Department Responses as % of Total Responses			
Department	F2F	ITV	Online
ABS	0.1%		
ACCT	2.7%	18.6%	
AFRO	0.5%		
AIS	0.6%		
ANTH	2.9%	3.0%	1.2%
AP			1.5%
ART	0.1%		1.2%
AVIA	1.1%		
BIOL	5.0%		
CDS	0.3%		
CHEM	3.7%		
CNED	0.9%	0.6%	
COM	1.8%		3.6%
CS	1.4%		0.3%
DHC	1.0%		
ECON	1.8%	7.5%	
ECTL			0.4%
EFC	3.1%	1.4%	2.3%
ENG	7.1%		2.6%
FCS	2.8%		2.5%
FIN	2.5%	3.4%	
FNLA	2.2%		
GEOG	2.8%		
GEOL	2.3%		
HIST	1.5%		0.7%
IDS			2.0%
IET	3.6%		0.8%
ITAM	2.3%	10.3%	29.8%
LAJ	2.5%	6.3%	8.7%
LC	0.7%		
LIB			0.4%
LLAS	0.1%		
LLSE	3.6%		0.2%
MANA	2.2%	12.9%	5.1%
MATH	6.3%		1.2%
MCNA	0.0%		
MLS	0.3%		
MUS	1.6%		
NEHS	4.5%	1.0%	5.5%
PESPH	3.2%		3.7%
PHIL	2.5%	5.0%	
PHYS	1.1%		
POSC	0.8%		0.5%
PRIM	0.2%		
PSY	5.0%	14.1%	9.7%
REM	0.3%		
SCED	1.1%		
SHP	0.1%		
SOC	2.4%	10.7%	13.8%
STEP	0.4%		
TEACH	2.5%	3.6%	0.0%
TH	4.2%	1.8%	1.4%
WS	0.1%		0.7%
<b>Grand Total</b>	<b>13,809</b>	<b>505</b>	<b>2,725</b>

**Table 5. Comparison of Average Responses of Face-to-Face, Interactive Video, and Online Courses.** (The left question number in the left column is the F2F and ITV question number for Form A. Form W (for online courses) is slightly different and the right question number corresponds to Form W)

Winter 2013 SEO Results Face-to-face (F2F) vs. Interactive Video (ITV) vs. 100% Online		F2F No. responses		ITV No. responses		Online No. responses		F2F Standard Deviation		ITV Standard Deviation		Online St. Dev.		F2F Average		ITV Average		Online Average		Cohen's d: F2F vs. ITV		Difference in F2F vs. ITV		Cohen's d: F2F vs. Online		Difference in F2F vs. Online	
		F2F	ITV	F2F	ITV	F2F	ITV	F2F	ITV	F2F	ITV	F2F	ITV	F2F	ITV	F2F	ITV	F2F	ITV	F2F	ITV	F2F	ITV	F2F	ITV	F2F	ITV
<b>1. STUDENT LEARNING ENVIRONMENT</b> To what extent do you agree or disagree that the...																											
1.a./1.a.	instructor fostered a fair and respectful learning environment?	13,379	503	2,673	0.83	0.78	0.81	4.48	4.51	4.43	0.04	0.06	SMALL														
1.b./1.b.	instructor seemed genuinely concerned with whether students learned?	13,312	499	2,658	0.94	0.91	0.92	4.36	4.37	4.32	0.02	0.04	SMALL														
1.c./1.c.	standards of online behavior were clearly communicated and enforced?	13,287	498	2,655	0.87	0.86	0.79	4.40	4.39	4.43	0.01	0.04	SMALL														
1.g.	if YES, did the instructor provide help?	7,534	315	1,846	0.92	1.03	0.93	4.28	4.17	4.29	0.11	0.01	SMALL														
<b>2. TEACHING FOR STUDENT LEARNING</b> To what extent do you agree or disagree that the...																											
2.a./2.a.	course objectives were clearly communicated?	13,305	504	2,656	0.89	0.89	0.81	4.32	4.31	4.42	0.02	0.11	SMALL														
2.b./2.b.	overall course content was presented in an understandable sequence?	13,278	502	2,646	0.99	0.94	0.88	4.22	4.24	4.34	0.02	0.13	SMALL														
2.c./2.c.	instructor used a variety of methods, as needed, to make content clear?	13,279	503	2,653	1.05	1.00	0.96	4.15	4.19	4.21	0.04	0.06	SMALL														
2.d./2.e.	assignments and tests were connected to course content?	13,277	501	2,656	0.84	0.77	0.74	4.40	4.42	4.48	0.03	0.10	SMALL														
2.e./2.f.	evaluation and grading techniques were clearly explained?	13,282	502	2,658	1.00	0.92	0.95	4.23	4.27	4.31	0.04	0.07	SMALL														
2.f./2.g.	instructions for class activities were clearly communicated?	13,279	502	2,658	0.97	0.92	0.92	4.25	4.29	4.30	0.05	0.06	SMALL														
2.g./2.h.	instructor provided useful feedback on student work?	13,287	502	2,659	1.07	1.07	1.04	4.13	4.12	4.18	0.01	0.05	SMALL														
2.h./2.i.	instructor provided timely feedback on student progress?	13,283	500	2,652	1.03	1.06	1.03	4.19	4.14	4.20	0.05	0.01	SMALL														
2.i./2.j.	class sessions (online activities) were well organized?	13,277	499	2,650	1.01	1.02	0.90	4.22	4.19	4.32	0.02	0.11	SMALL														
2.j./2.k.	out-of-class (online) work was useful in understanding course content?	13,249	499	2,642	0.98	0.95	0.87	4.22	4.22	4.30	0.00	0.08	SMALL														
2.k./2.l.	instructor encouraged students to connect course content to issues beyond classroom?	13,243	498	2,638	0.93	0.89	0.91	4.32	4.36	4.31	0.04	0.01	SMALL														
2.l./2.m.	course activities challenged students to think critically?	13,159	490	2,609	0.91	0.82	0.83	4.33	4.40	4.39	0.07	0.06	SMALL														
<b>GENERAL INFORMATION</b>																											
How would you compare this course with other courses of similar credits at this level (i.e., 100, 200, 300, etc.) taken at CWUP? Was the...																											
3.a.	amount of work OUTSIDE of class / online environment	12,881	500	2,995	0.89	0.91	0.80	3.42	3.54	3.46	0.13	0.04	SMALL														
3.b.	level of engagement/active learning IN class / online environment	12,666	494	2,562	0.94	0.92	0.81	3.46	3.53	3.40	0.07	0.07	SMALL														
3.c.	intellectual challenge presented to you	12,616	491	2,555	0.93	0.91	0.84	3.54	3.70	3.53	0.17	0.01	SMALL														

**Table 5. (continued) Comparison of Average Responses of Face-to-Face, Interactive Video, and Online Courses**

<b>For this class, about how many hrs outside of class did you spend in a typical 7-day week studying, reading, conducting research, writing, homework or lab work, analyzing data, rehearsing &amp; other acad. activities (and participating online)? DNA = did not answer. The average is estimated from category midpoints.</b>											
	- n -	0	1-3	4-6	7-10	11-15	16-20	21+	DNA	Average	
Face-to-face	13,809	2%	29%	33%	19%	7%	3%	1%	6%	5.53	hrs / wk
Interactive Video	505	1%	17%	28%	28%	13%	9%	3%	1%	8.24	hrs / wk
100% online	2,725	0%	14%	35%	26%	13%	6%	2%	4%	7.40	hrs / wk
<b>Why did you take this course? Please mark all that apply.</b>											
	- n -	Major	Minor	Certi- ficate	Gen Ed	Instruc- tor	Time / Online	Interest	Other		
Face-to-face	13,809	56%	9%	4%	24%	8%	9%	15%	3%		
Interactive Video	505	63%	15%	5%	10%	12%	11%	18%	5%		
100% online	2,725	63%	11%	3%	13%	6%	26%	20%	5%		
<b>What is your class standing? DNA is "Did not answer"</b>											
	- n -	1st yr	Soph.	Junior	Senior	Grad.	Other	DNA	Avg.		
Face-to-face	13,809	15%	15%	28%	30%	3%	2%	7%	2.7	Sophomore - Junior	
Interactive Video	505	3%	4%	33%	45%	11%	4%	1%	3.4	Junior - Senior	
100% online	2,725	4%	5%	41%	46%	1%	1%	2%	3.3	Junior - Senior	
<b>What grade do you expect to earn in this course?</b>											
	- n -	- A -	- B -	- C -	- D -	- F -	Other	DNA	Avg.		
Face-to-face	13,809	45%	34%	10%	1%	0%	1%	7%	3.1	expected grade	
Interactive Video	505	46%	42%	10%	1%	0%	1%	1%	3.3	expected grade	
100% online	2,725	49%	35%	8%	1%	0%	2%	4%	3.2	expected grade	

**VI. GENERAL INFORMATION**

The differences in average responses for the first two question banks were small for all questions regardless of how the course was taught, i.e., face-to-face, via interactive video, or online.

Note that the ITV and online courses had, on average, fewer students reporting that they enrolled in courses to complete General Education requirements. Also students in ITV and online courses reported studying more per week and they had, on average, higher class standings than students in face-to-face courses.

## VIII. SUMMARY

A. How did CWU students evaluate their instruction during the winter 2013 term?

On average, student evaluations at CWU are very positive with average results between Agree and Strongly Agree (the best possible rating) on all questions relating to student learning environment and teaching for student learning.

G. Do course evaluations indicate any major differences in learning outcomes between courses taught 100% online and lecture courses taught in-class, face-to-face?

No – not when students were asked questions about “Student Learning Environment” or “Teaching for Student Learning.” If anything, students enrolled in ITV and online courses gave higher ratings than students in traditional, classroom F2F courses.



## APPENDIX 1 (of Winter 2013 Report)

### Terms, Acronyms, and Abbreviations

Cohen's d	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: <a href="http://www.leeds.ac.uk/educol/documents/00002182.htm">http://www.leeds.ac.uk/educol/documents/00002182.htm</a> Note: Some studies have indicated that Effect Size calculations with ordinal data may over-state the difference in means.
End-point scale	CWU's bubble sheet surveys used before the spring 2012 quarter used mostly "end point" question scales. For example students were asked to respond from 5=Always, 4, 3, 2, 1 = Never. Endpoint scales give interval data because the intervals between values are all equal. Statistical measures used with continuous data (means and standard deviations) are valid with end-point scales and are usually robust to ordinal data.
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 evaluation 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 using Blackboard.
ITV	Courses transmitted via video synchronously.
Likert scale	Most 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.
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 via Blackboard or Canvas, usually asynchronously.
SEOI	"Student Evaluation of Instruction" CWU's term for course evaluations
St Dev	An abbreviation for "standard deviation" a statistical measure of variability

**APPENDIX 2 (of Winter 2013 Report)**

**SEOI RESPONSE RATES BY FORM BY DEPARTMENT**

**WINTER 2013 SEOI RESPONSE RATES BY DEPARTMENT**

**FORM A – LECTURE**

**Overall Response Rate = 51%**

Dept.	SEOs sent	Replies	Response Rate	% Data bars
MLS	147	41	28%	
ABS	51	15	29%	
MCNA	12	4	33%	
TH	896	325	36%	
AVIA	374	145	39%	
POSC	291	115	40%	
CS	500	200	40%	
AIS	52	21	40%	
LC	197	81	41%	
GEOG	591	249	42%	
COM	571	247	43%	
ENST	184	80	43%	
AFRO	85	37	44%	
LLAS	32	14	44%	
NEHS	1,413	627	44%	
MUS	504	225	45%	
FCS	832	378	45%	
GEOL	569	259	46%	
MATH	1,865	864	46%	
ECON	608	286	47%	
LAJ	789	380	48%	
HIST	417	213	51%	
WS	39	20	51%	
PESPH	856	443	52%	
PSY	1,482	768	52%	
PHYS	287	149	52%	
ENG	1,880	978	52%	
MANA	718	375	52%	
EFC	826	435	53%	
SOC	729	390	54%	
CHEM	944	509	54%	
PHIL	688	374	54%	
ANTH	758	414	55%	
FNLA	554	304	55%	
TEACH	605	334	55%	
IET	909	502	55%	
ACCT	836	464	56%	
STEP	40	23	58%	
LLSE	861	504	59%	
FIN	583	342	59%	
SCED	146	89	61%	
REM	31	19	61%	
CNED	231	142	61%	
ITAM	588	368	63%	
CDS	65	41	63%	
BIOL	906	602	66%	
ART	24	16	67%	
SHP	7	5	71%	
DHC	169	135	80%	
PRIM	37	30	81%	
<b>TOTAL</b>	<b>26,779</b>	<b>13,581</b>	<b>51%</b>	

**WINTER 2013 SEOI RESPONSE RATES BY DEPARTMENT**

**FORM C – SKILLS ACQUISITION**

**Overall Response Rate = 41%**

Depart.	SEOs sent	Replies	Response Rate	% Data Bars
AVIA	47	13	28%	
TH	186	54	29%	
COM	506	203	40%	
PESPH	1,573	633	40%	
IET	78	36	46%	
ACSK	205	104	51%	
PSY	13	7	54%	
TEACH	23	13	57%	
ENG	19	13	68%	
<b>TOTAL</b>	<b>2,650</b>	<b>1,076</b>	<b>41%</b>	




**WINTER 2013 SEOI RESPONSE RATES BY DEPARTMENT**

**FORM D – LAB**


























**Overall Response Rate = 45%**

Depart.	SEOs sent	Replies	Response Rate	% Data bars
MLS	15	5	33%	
GEOG	134	49	37%	
PSY	269	107	40%	
NEHS	708	291	41%	
AFRO	69	30	43%	
GEOL	215	99	46%	
BIOL	346	167	48%	
CHEM	692	337	49%	
PHYS	20	11	55%	
ANTH	44	25	57%	
EFC	102	58	57%	
<b>TOTAL</b>	<b>2,614</b>	<b>1,179</b>	<b>45%</b>	

**WINTER 2013 SEOI RESPONSE RATES BY DEPARTMENT**  
**FORM E – VISUAL & PERFORMING ARTS**  
**Overall Response Rate = 37%**

Depart.	SEOs sent	Replies	Response Rate	% Data bars
TH	187	54	29%	
MUS	1,368	507	37%	
ART	387	156	40%	
<b>TOTAL</b>	<b>1,942</b>	<b>717</b>	<b>37%</b>	

**WINTER 2013 SEOI RESPONSE RATES BY DEPARTMENT**  
**FORM W – ONLINE**  
**Overall Response Rate = 62%**

Depart.	SEOs sent	Replies	Response Rate	% Data bars
IET	52	23	44%	
ENG	140	71	51%	
TH	73	39	53%	
LAJ	435	237	54%	
PESPH	182	102	56%	
FCS	122	69	57%	
NEHS	122	69	57%	
COM	170	97	57%	
LIB	21	12	57%	
MANA	242	140	58%	
PSY	448	264	59%	
POSC	22	13	59%	
HIST	32	19	59%	
CNED	20	12	60%	
LLSE	10	6	60%	
EFC	101	64	63%	
MATH	50	32	64%	
IDS	85	55	65%	
SOC	579	377	65%	
ART	49	32	65%	
ITAM	1,217	811	67%	
CS	12	8	67%	
WS	27	20	74%	
ANTH	42	33	79%	
AP	47	40	85%	
<b>TOTAL</b>	<b>4,300</b>	<b>2,645</b>	<b>62%</b>	

## APPENDIX 4

### SPRING 2013 COMPARISON OF FACE-TO-FACE (F2F), INTERACTIVE VIDEO (ITV), AND 100% ONLINE COURSE EVALUATIONS



**CENTRAL WASHINGTON UNIVERSITY**

**SPRING 2013 COURSE EVALUATION COMPARISON**

**An analysis of course evaluations submitted by students enrolled in courses taught face-to-face (F2F), via synchronous interactive video (ITV), and 100% online**

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## I. ABSTRACT

All CWU course evaluations were administered online during the spring 2013 quarter. This was the first quarter that surveys were only administered during a one week period/. It was also the first quarter that faculty could not download a list of student names who did or did not respond to SEOIs. This report compares the evaluations 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 analyzes are:

- How do CWU students rate their instruction?
- Do course evaluations indicate any major differences in learning outcomes between courses taught 100% online, via interactive video, and lecture courses taught in-class, face-to-face?

## II. EXECUTIVE SUMMARY

- CWU students’ average ratings of instruction during the spring 2013 quarter were, on average, very positive.
- Student evaluations of online courses and ITV courses are very similar to the ratings of students in face-to-face courses.

## III. BACKGROUND

During the spring 2012 quarter Central Washington University administered all course evaluations online for the first time. New forms developed by an SEOI Task Force were also used for the first time institution-wide. The course evaluation forms for online and face-to-face courses ask many of the same questions.

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

- [Form A 2010 - Lecture](#)
- [Form C 2010 - Skills Acquisition](#)
- [Form D 2010 - Laboratory](#)
- [Form E 2010 - Visual and Performing Arts](#)
- [Form W 2010 - Online](#)

An Online SEOI FAQ has information about the online course evaluation process and links to the final SEOI Task Force report: <http://www.cwu.edu/associate-provost/Online-SEOI>. The FAQ was updated based on questions that arose during the initial spring quarter. Most 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).



## Overall Response Rates

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

\*

**Table 1. Response Rates to Form A – Lecture and Form W Online**

	Spring 2012	Fall 2012	Winter 2013	Spring 2013
Form A – F2F & ITV	56%	57%	50.7%	41.4%
Form W - Online	62%	64%	61.5%	53.4%

The response rates varied quite a bit by faculty and by department. Appendix 2 shows average response rate by SEOI forms for all CWU departments.

## IV. OVERALL RESULTS AND COMPARISON OF MEDIANS

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."

Table 3 summarizes the median responses to the first two question banks. ITV and online students gave a median of 5.0 to all questions except for 2.g. "In instructor provided useful feedback on student work" which had a median of four from both groups. A median of 5.0 means that 50% or more of the students gave the best possible rating of 5.0.

The medians for F2F students were not quite as strong in the "Teaching for Student Learning" section. The following questions had medians of 4.0:

**Table 2. Questions with medians of 4.0 on F2F SEOIs: TEACHING FOR STUDENT LEARNING To what extent do you agree or disagree that the....**

2.b.	overall course content was presented in an understandable sequence?
2.c.	instructor used a variety of methods, as needed, to make content clear?
2.g.	instructor provided useful feedback on student work?
2.h.	instructor provided timely feedback on student progress?
2.i.	class sessions (online activates) were well organized?
2.j.	out-of-class (online) work was useful in understanding course content?

**Table 3. A Summary of Median Responses to “Student Learning Environment” and “Teaching for Student Learning.”** (Note: F2f and ITV question numbers are on the left, online question numbers are on the right)

Spring 2013 SEOI Medians Face-to-face (F2F) vs. Interactive Video (ITV) vs. 100% Online		F2F # Responses			ITV # Responses			Online # Responses		
		F2F # Responses	ITV # Responses	Online # Responses	F2F Median	ITV Median	Online Median			
<b>1 - STUDENT LEARNING ENVIRONMENT To what extent do you agree or disagree that the...</b>										
1.a./1.a.	instructor fostered a fair and respectful learning environment?	10,426	522	2,173	5.0	5.0	5.0			
1.b./1.b.	instructor seemed genuinely concerned with whether students learned?	10,384	522	2,161	5.0	5.0	5.0			
1.c./1.c.	standards of online behavior were clearly communicated and enforced?	10,341	520	2,163	5.0	5.0	5.0			
1.g.	If YES, did the instructor provide help?	6,070	340	1,527	5.0	5.0	5.0			
<b>2. TEACHING FOR STUDENT LEARNING To what extent do you agree or disagree that the...</b>										
2.a./2.a.	course objectives were clearly communicated?	10,360	522	2,164	5.0	5.0	5.0			
2.b./2.b.	overall course content was presented in an understandable sequence?	10,354	521	2,163	4.0	5.0	5.0			
2.c./2.c.	instructor used a variety of methods, as needed, to make content clear?	10,347	524	2,162	4.0	5.0	5.0			
2.d./2.e.	assignments and tests were connected to course content?	10,354	523	2,162	5.0	5.0	5.0			
2.e./2.f.	evaluation and grading techniques were clearly explained?	10,349	523	2,164	5.0	5.0	5.0			
2.f./2.g.	instructions for class activities were clearly communicated?	10,351	521	2,156	5.0	5.0	5.0			
2.g./2.h.	<b>instructor provided useful feedback on student work?</b>	<b>10,347</b>	<b>522</b>	<b>2,154</b>	<b>4.0</b>	<b>4.0</b>	<b>4.0</b>			
2.h./2.h.	instructor provided timely feedback on student progress?	10,336	522	2,156	4.0	5.0	5.0			
2.i./2.j.	class sessions (online activates) were well organized?	10,343	521	2,155	4.0	5.0	5.0			
2.j./2.k.	out-of-class (online) work was useful in understanding course content?	10,323	521	2,151	4.0	5.0	5.0			
2.k./2.l.	instructor encouraged students to connect course content to issues beyond classroom?	10,317	521	2,151	5.0	5.0	5.0			
2.l./2.m.	course activities challenged students to think critically?	10,274	517	2,135	5.0	5.0	5.0			

## V. ANALYSIS OF AVERAGE RESPONSES

Table 5 presents a detailed 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. All of the differences in averages were small.

Cohen's d effect size is a method of quantifying the difference between two groups. Effect sizes of 0.2 or less are often considered "small," 0.3 to 0.8 are "medium" and 0.8 or higher are large.

A majority of the ITV SEOI responses (57%) are from the College of Business. One department, Information Technology and Administrative Management (ITAM) dominates the online responses with 31% of the total. These differences don't seem to have a large impact on the average question ratings. See table 4. For a summary.

CWU used two Learning Management Systems to deliver online courses during the spring 2013 quarter. The effect seems to be minimal. There were seven online sections using Canvas that had SEOI responses. The overall response rate was 55%.

**Table 4. Departmental SEOI Responses as the Percent of Total Responses**

Department	F2F	ITV	Online
ABS	0%		
ACCT	3%	18%	
ACSK	1%		
AFRO	0%		
AIS	1%	2%	
ANTH	3%	1%	3%
AP		2%	1%
ART	1%		
AST	0%		
AVIA	1%		
BIOL	6%		
CDS	0%		
CHEM	3%		
CNED	1%		1%
COM	2%		2%
CS	1%		0%
DHC	1%		
ECON	2%	5%	
EFC	2%		3%
ENG	6%		3%
FCS	3%	5%	3%
FIN	4%	8%	
FNLA	2%		
GEOG	2%		0%
GEOL	2%		1%
HIST	2%		1%
IDS	0%		4%
IET	4%		1%
ITAM	3%	7%	31%
LAJ	3%		6%
LC	1%	4%	
LLAS	0%	2%	
LLSE	3%		1%
MANA	3%	26%	2%
MATH	6%		1%
MLS	0%		
MUS	1%		
NEHS	5%		5%
PESPH	3%		4%
PHIL	3%		1%
PHYS	1%		
POSC	1%		2%
PSY	6%	11%	11%
REM	0%		
SCED	1%	3%	
SHP	0%		
SOC	3%	6%	12%
STEP	0%		
TEACH	2%		
TH	3%	1%	
WS	0%		2%
<b>TOTAL %</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>TOTAL #</b>	<b>10,765</b>	<b>525</b>	<b>2,197</b>

**Table 5. Comparison of Average Responses of Face-to-Face, Interactive Video, and Online Courses.** (The left question number in the left column is the F2F and ITV question number for Form A. Form W (for online courses) is slightly different and the right question number corresponds to Form W)

Spring 2013 SEOI Results Face-to-face (F2F) vs. Interactive Video (ITV) vs. 100% Online		F2F No. Responses			ITV No. Responses			Online No. Responses			F2F Standard Deviation			ITV Standard Deviation			Online St. Dev.			F2F Average			ITV Average			Online Average			Cohen's d: F2F vs. ITV			Cohen's d: F2F vs. Online			Difference in F2F vs. ITV			Difference in F2F vs. Online		
		F2F	ITV	Online	F2F	ITV	Online	F2F	ITV	Online	F2F	ITV	Online	F2F	ITV	Online	F2F	ITV	Online	F2F	ITV	Online	F2F	ITV	Online	F2F	ITV	Online	F2F	ITV	Online	F2F	ITV	Online						
<b>1 - STUDENT LEARNING ENVIRONMENT To what extent do you agree or disagree that the...</b>																																								
1.a./1.a.	instructor fostered a fair and respectful learning environment?	10,426	522	2,173	0.86	0.93	0.86	4.45	4.39	4.42	0.07	0.04	SMALL	SMALL																										
1.b./1.b.	instructor seemed genuinely concerned with whether students learned?	10,384	522	2,161	0.97	1.02	1.00	4.32	4.26	4.28	0.07	0.04	SMALL	SMALL																										
1.c./1.c.	standards of online behavior were clearly communicated and enforced?	10,341	520	2,163	0.90	1.02	0.90	4.36	4.25	4.37	0.12	0.01	SMALL	SMALL																										
1.g.	If YES, did the instructor provide help?	6,070	340	1,527	0.96	0.89	1.04	4.30	4.35	4.24	0.05	0.06	SMALL	SMALL																										
<b>2. TEACHING FOR STUDENT LEARNING To what extent do you agree or disagree that the...</b>																																								
2.a./2.a.	course objectives were clearly communicated?	10,360	522	2,164	0.90	0.94	0.85	4.32	4.34	4.39	0.02	0.09	SMALL	SMALL																										
2.b./2.b.	overall course content was presented in an understandable sequence?	10,354	521	2,163	0.99	1.07	0.89	4.22	4.18	4.35	0.04	0.14	SMALL	SMALL																										
2.c./2.c.	instructor used a variety of methods, as needed, to make content clear?	10,347	524	2,162	1.05	1.14	1.00	4.14	4.11	4.20	0.02	0.06	SMALL	SMALL																										
2.d./2.e.	assignments and tests were connected to course content?	10,354	523	2,162	0.85	0.91	0.72	4.39	4.35	4.49	0.05	0.11	SMALL	SMALL																										
2.e./2.f.	evaluation and grading techniques were clearly explained?	10,349	523	2,164	1.01	1.09	0.96	4.23	4.18	4.30	0.04	0.07	SMALL	SMALL																										
2.f./2.g.	instructions for class activities were clearly communicated?	10,351	521	2,156	0.97	1.07	0.97	4.25	4.20	4.28	0.05	0.03	SMALL	SMALL																										
2.g./2.h.	instructor provided useful feedback on student work?	10,347	522	2,154	1.08	1.18	1.13	4.12	4.02	4.13	0.09	0.01	SMALL	SMALL																										
2.h./2.h.	instructor provided timely feedback on student progress?	10,336	522	2,156	1.07	1.07	1.22	4.16	4.16	4.06	0.01	0.09	SMALL	SMALL																										
2.i./2.j.	class sessions (online activities) were well organized?	10,343	521	2,155	1.00	1.09	0.97	4.21	4.16	4.28	0.05	0.07	SMALL	SMALL																										
2.j./2.k.	out-of-class (online) work was useful in understanding course content?	10,323	521	2,151	0.98	1.01	0.90	4.21	4.22	4.30	0.01	0.09	SMALL	SMALL																										
2.k./2.l.	instructor encouraged students to connect course content to issues beyond classroom?	10,317	521	2,151	0.91	1.01	0.96	4.33	4.27	4.29	0.07	0.05	SMALL	SMALL																										
2.l./2.m.	course activities challenged students to think critically?	10,274	517	2,135	0.93	0.97	0.87	4.31	4.30	4.37	0.01	0.07	SMALL	SMALL																										
<b>GENERAL INFORMATION</b>																																								
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	10,042	517	2,138	0.89	0.83	0.82	3.41	3.42	3.47	0.01	0.07	SMALL	SMALL																										
3.b.	level of engagement/active learning IN class / online environment	9,874	505	2,115	0.94	0.98	0.84	3.47	3.41	3.39	0.06	0.09	SMALL	SMALL																										
3.c.	intellectual challenge presented to you	9,821	505	2,106	0.94	0.85	0.86	3.53	3.59	3.49	0.07	0.04	SMALL	SMALL																										

**Table 5. (continued) Comparison of Average Responses of Face-to-Face, Interactive Video, and Online Courses**

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)? DNA = did not answer. The average is estimated from category midpoints.											
	- n -	0	1-3	4-6	7-10	11-15	16-20	21+	DNA	Average	
Face-to-face	10,765	2%	30%	33%	18%	7%	2%	1%	6%	5.31	hours per week
Interactive Video	525	1%	21%	29%	27%	15%	6%	2%	0%	7.50	hours per week
100% online	2,197	0%	15%	32%	27%	14%	7%	3%	2%	7.92	hours per week
Why did you take this course? Please mark all that apply.											
	- n -	Major	Minor	Certificate	Gen Ed	Instructor	Time / Online	Interest	Other		
Face-to-face	10,765	56%	9%	3%	23%	9%	9%	17%	4%		
Interactive Video	525	71%	15%	4%	7%	9%	11%	14%	3%		
100% online	2,197	62%	9%	4%	14%	6%	25%	21%	5%		
What is your class standing? DNA is "Did not answer"											
	- n -	1st yr	Soph.	Junior	Senior	Grad.	Other	DNA	Avg.		
Face-to-face	10,765	14%	15%	29%	30%	3%	2%	7%	2.7	Sophomore - Junior	
Interactive Video	525	2%	3%	40%	40%	12%	3%	1%	3.5	Junior - Senior	
100% online	2,197	3%	4%	39%	45%	5%	5%	0%	3.3	Junior - Senior	
What grade do you expect to earn in this course?											
	- n -	- A -	- B -	- C -	- D -	- F -	Other	DNA	Avg.		
Face-to-face	10,765	45%	34%	11%	1%	0%	1%	7%	3.1	expected grade	
Interactive Video	525	50%	41%	7%	0%	0%	0%	1%	3.4	expected grade	
100% online	2,197	55%	30%	9%	1%	0%	2%	2%	3.3	expected grade	

**VI. GENERAL INFORMATION**

The differences in average responses for the first two question banks were small for all questions regardless of how the course was taught, i.e., face-to-face, via interactive video, or online.

Note that the ITV and online courses had, on average, fewer students reporting that they enrolled in courses to complete General Education requirements. Also students in ITV and online courses reported studying more per week and they had, on average, higher class standings than students in face-to-face courses.

## VIII. SUMMARY

- A. How did CWU students evaluate their instruction during the spring 2012 term?

On average, student evaluations at CWU are very positive with average results between Agree and Strongly Agree (the best possible rating) on all questions relating to student learning environment and teaching for student learning.

- H. Do course evaluations indicate any major differences in learning outcomes between courses taught 100% online and lecture courses taught in-class, face-to-face?

No – not when students were asked questions about “Student Learning Environment” or “Teaching for Student Learning.” If anything, students enrolled in ITV and online courses gave higher ratings than students in traditional, classroom F2F courses.

- I. How can CWU improve the response rates to online SEOIs?

CWU should go back to administering SEOIs over a two week period to improve response rates.

## APPENDIX 1 (of Spring 2013 Report)

### Terms, Acronyms, and Abbreviations

Cohen's d	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: <a href="http://www.leeds.ac.uk/educol/documents/00002182.htm">http://www.leeds.ac.uk/educol/documents/00002182.htm</a> Note: Some studies have indicated that Effect Size calculations with ordinal data may over-state the difference in means.
End-point scale	CWU's bubble sheet surveys used before the spring 2012 quarter used mostly "end point" question scales. For example students were asked to respond from 5=Always, 4, 3, 2, 1 = Never. Endpoint scales give interval data because the intervals between values are all equal. Statistical measures used with continuous data (means and standard deviations) are valid with end-point scales and are usually robust to ordinal data.
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 evaluation 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 using Blackboard.
ITV	Courses transmitted via video synchronously.
Likert scale	Most 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.
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 via Blackboard or Canvas, usually asynchronously.
SEOI	"Student Evaluation of Instruction" CWU's term for course evaluations
St Dev	An abbreviation for "standard deviation" a statistical measure of variability



**APPENDIX 2 (of Spring 2013 Report)**

**SEOI RESPONSE RATES BY FORM BY DEPARTMENT**

**SPRING 2013 SEOI RESPONSE RATES BY DEPARTMENT**

**FORM A – LECTURE**

**Overall Response Rate = 41%**

Depart.	SEOs sent	Responses	Response Rate	Data Bars
ABS	21	3	14%	
MLS	157	28	18%	
AVIA	289	75	26%	
TH	619	179	29%	
CS	500	149	30%	
LC	135	41	30%	
GEOG	834	258	31%	
LLAS	35	11	31%	
MUS	409	131	32%	
COM	756	264	35%	
ACSK	123	43	35%	
AFRO	74	26	35%	
LAJ	859	302	35%	
CDS	82	29	35%	
FCS	826	296	36%	
NEHS	1,418	530	37%	
PESPH	874	337	39%	
PSY	1,588	614	39%	
MATH	1,653	654	40%	
ART	185	74	40%	
ECON	519	208	40%	
GEOL	451	181	40%	
HIST	458	185	40%	
STEP	29	12	41%	
SOC	828	343	41%	
ENG	1,425	593	42%	
POSC	286	119	42%	
IET	961	403	42%	
WS	33	14	42%	
TEACH	388	165	43%	
ANTH	761	327	43%	
CHEM	701	309	44%	
LLSE	824	372	45%	
IDS	11	5	45%	
PHYS	312	143	46%	
CNED	351	164	47%	
PHIL	787	368	47%	
AIS	62	29	47%	
FNLA	517	243	47%	
EFC	442	213	48%	
MANA	923	451	49%	
ACCT	795	395	50%	
AST	29	15	52%	
BIOL	870	463	53%	
ITAM	656	354	54%	
SCED	138	75	54%	
DHC	141	82	58%	
FIN	697	407	58%	
REM	22	14	64%	
SHP	7	5	71%	
AP	12	11	92%	
<b>TOTAL</b>	<b>25,873</b>	<b>10,712</b>	<b>41%</b>	

**SPRING 2013 SEOI RESPONSE RATES BY DEPARTMENT**

**FORM C – SKILLS ACQUISITION**

**Overall Response Rate = 33%**

Depart.	SEOs sent	Responses	Response Rate	Data Bars
TH	175	31	18%	
AVIA	51	10	20%	
PESPH	1,776	577	32%	
COM	243	80	33%	
ENST	47	18	38%	
NEHS	156	61	39%	
IET	126	53	42%	
ANTH	11	5	45%	
CHEM	6	3	50%	
ENG	50	25	50%	
PHYS	18	9	50%	
<b>TOTAL</b>	<b>2,659</b>	<b>872</b>	<b>33%</b>	

**SPRING 2013 SEOI RESPONSE RATES BY DEPARTMENT**

**FORM D – LAB**

**Overall Response Rate = 37%**

Depart.	SEOs sent	Response	Response Rate	Data Bars
COM	129	30	23%	
PSY	187	53	28%	
AFRO	62	20	32%	
NEHS	388	128	33%	
PHYS	48	17	35%	
CHEM	529	219	41%	
GEOL	198	82	41%	
EFC	66	33	50%	
ANTH	53	31	58%	
GEOG	6	4	67%	
<b>TOTAL</b>	<b>1,666</b>	<b>617</b>	<b>37%</b>	

**SPRING 2013 SEOI RESPONSE RATES BY DEPARTMENT**  
**FORM E – VISUAL & PERFORMING ARTS**  
**Overall Response Rate = 27%**

	SEOs		Response	Data
Depart.	sent	Response	Rate	Bars
TH	160	35	22%	
MUS	1,211	315	26%	
PESPH	127	34	27%	
ART	321	107	33%	
<b>TOTAL</b>	<b>1,819</b>	<b>491</b>	<b>27%</b>	

**SPRING 2013 SEOI RESPONSE RATES BY DEPARTMENT**  
**FORM W – ONLINE**  
**Overall Response Rate = 53%**

	SEOs		Response	Data
Depart.	sent	Response	Rate	Bars
GEOG	25	7	28%	
CS	25	8	32%	
HIST	36	13	36%	
NEHS	216	85	39%	
LIB	43	17	40%	
WS	27	11	41%	
PESPH	213	91	43%	
POSC	101	44	44%	
OTHER	55	25	45%	
LAJ	283	135	48%	
IET	58	28	48%	
FCS	132	65	49%	
EFC	135	67	50%	
GEOL	36	18	50%	
PSY	468	240	51%	
COM	71	38	54%	
ENG	112	60	54%	
SOC	472	257	54%	
MANA	97	54	56%	
PHIL	30	17	57%	
IDS	117	69	59%	
MATH	45	27	60%	
CNED	44	27	61%	
ITAM	1,090	679	62%	
ANTH	88	56	64%	
LLSE	32	21	66%	
AP	29	21	72%	
<b>TOTAL</b>	<b>4,080</b>	<b>2,180</b>	<b>53%</b>	