

**STATISTICAL PROPERTIES OF THE  
COURSE EXPERIENCE SURVEY  
ON-LINE VERSION  
SPRING TERM 2015**

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1. *Very Poor*
2. *Poor*
3. *Adequate*
4. *Good*
5. *Excellent*

Student responses were treated as interval data and so item means and standard deviations were calculated. For these analyses all complete student records were analysed.

#### INSTRUCTOR

The results of the item analysis are reported in Table 1 and response distributions in Figure 2. All means for the Instructor items were over 4, indicating overall positive student evaluations of the instructors delivering courses at the University of Victoria. The mean score for the overall rating of course instructor (Item 8) was 4.2 – a location between *Good* and *Excellent*.

The item discriminations reported are the correlation between the item score and the total test score (summing the values for each of the 8 instructor items). The discrimination indices are all 0.70 or greater (maximum values is 1.0) – this is indicative of a relatively homogeneous item set which is a good thing since these items all focus on the instructor.

The reliability index for this 8-item instrument is 0.93 which is quite high for an 8-item instrument given the maximum value of  $\alpha$  is 1.0 – indicating a high level of internal consistency amongst the 8 items.

Inter-item correlations were calculated (Table 3a) and they show all items to be positively correlated. All Instructor items have moderately strong correlations (0.56 to 0.81) with item 8 – the overall rating of the instructor.

#### COURSE

The results of the analysis of Course items are reported in Table 2 and the response distributions are reported in Figure 3. All means for Course items were over 4 and as with the Instructor items this indicates that students were generally positive in their evaluations of the courses they took at UVic. The mean for the overall rating of the course (Item 15) was 4.1 – a location between *Good* and *Excellent*.

The discrimination indices for the Course items are all 0.79 or greater – and as with the Instructor items this would indicate a homogenous item set for the student evaluation of courses at the University.



responding to the CES divided by the number invited to respond for each course. In total the analysis involved 1 787 courses.

The average response rate for Spring Term 2015 courses was 0.52 with a fair range of rates across courses (sd=0.23) as illustrated by the distribution of rates across courses (Figure 5).

There was also variation in the size of classes<sup>2</sup> (Figure 6) with an overall average of 38 and a range from 5 to 340. The correlation between the response rate and the class size was near-zero (-0.08) and this lack of linear relationship is evident in the plot of class size and response (Figure 7).

This analysis is based upon student response data aggregated at the course level. The class size was based upon the number of responding students<sup>4</sup> and so is not equivalent to section size (or the number of students invited to respond to the CES).

The overall ratings of Instructor and Course showed a slight decline as class size decreased. The Instructor mean for courses with class sizes in the 1 to 10 range was 4.38 (sd=0.61) and for Instructors of courses with class sizes greater than 100 the mean overall rating was 4.22 (sd=0.43) – a general decline.

## IN SUMMARY

The *Course Experience Survey* administered on-line in the Spring Term of 2015 has statistical properties similar to the paper-pencil version of the instrument administered in 2009. The items appear to have a two-component structure and the components are strongly and positively correlated.

The results show that UVic students generally rate their instructors and courses very positively. There does not appear to be strong associations between section sizes and response rates, between course level and rating of instructors and courses, and between class size and rating of instructors and courses.

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<sup>4</sup> In the analysis of response rates, the number of student invited to respond was the index of class size.

Figure 1: The Course Experience Survey – Instructor and Course-related items

TABLE 1: INSTRUCTOR ITEMS – SUMMARY STATISTICS

Item	Item Mean	Standard Deviation	Item Discrimination
Instructor 1	4.44	0.78	0.79
Instructor 2	4.10	0.98	0.85
Instructor 3	4.01	1.08	0.86
Instructor 4	4.29	0.87	0.82
Instructor 5	4.23	0.92	0.70
Instructor 6	4.03	1.01	0.85
Instructor 7	4.45	0.81	0.77
Instructor 8	4.24	0.93	0.92

$$\alpha = 0.93$$

FIGURE 2: INSTRUCTOR ITEMS – RESPONSE DISTRIBUTIONS

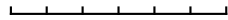






TABLE 3: ITEM CORRELATIONS

## 3a: Instructor-related Items

	Inst 1	Instr 2	Inst 3	Instr 4	Instr 5	Inst 6	Inst 7
Instructor 2	0.69						
Instructor 3	0.61	0.74					
Instructor 4	0.58	0.61	0.65				
Instructor 5	0.50	0.48	0.49	0.54			
Instructor 6	0.57	0.65	0.69	0.69	0.60		
Instructor 7	0.56	0.58	0.60	0.62	0.46	0.61	
Instructor 8	0.72	0.81	0.81	0.70	0.56	0.74	0.70

## 3b: Course-related Items

	Course9	Course10	Course11	Course12	Course13	Course14
Course 10	0.72					
Course 11	0.65	0.69				
Course 12	0.52	0.57	0.65			
Course 13	0.64	0.62	0.65	0.59		
Course 14	0.58	0.58	0.63	0.60	0.60	
Course 15	0.72	0.72	0.75	0.69	0.73	0.77

## 3c: Instructor by Course-related Items

	Course9	Course10	Course11	Course12	Course13	Course14	Course15
Instructor 1	0.56	0.53	0.50	0.45	0.49	0.48	0.60
Instructor 2	0.62	0.61	0.58	0.53	0.56	0.55	0.69
Instructor 3	0.59	0.58	0.61	0.58	0.58	0.61	0.74
Instructor 4	0.51	0.51	0.51	0.51	0.53	0.50	0.59
Instructor 5	0.46	0.44	0.43	0.38	0.47	0.41	0.48
Instructor 6	0.57	0.56	0.58	0.56	0.61	0.55	0.66
Instructor 7	0.49	0.47	0.46	0.45	0.52	0.46	0.57
Instructor 8	0.63	0.61	0.61	0.58	0.62	0.60	0.77

TABLE 4: ROTATED COMPONENT LOADINGS

Item	Factor 1	Factor 2
Instructor 1	0.34	0.73
Instructor 2	0.47	0.70
Instructor 3	0.51	0.68
Instructor 4	0.32	0.77
Instructor 5	0.24	0.67
Instructor 6	0.43	0.73
Instructor 7	0.28	0.75
Instructor 8	0.47	0.79
Course 9	0.72	0.39
Course 10	0.76	0.34
Course 11	0.81	0.31
Course 12	0.72	0.32
Course 13	0.72	0.38
Course 14	0.75	0.32
Course 15	0.80	0.46

FIGURE 4: FACTOR LOADINGS PLOT

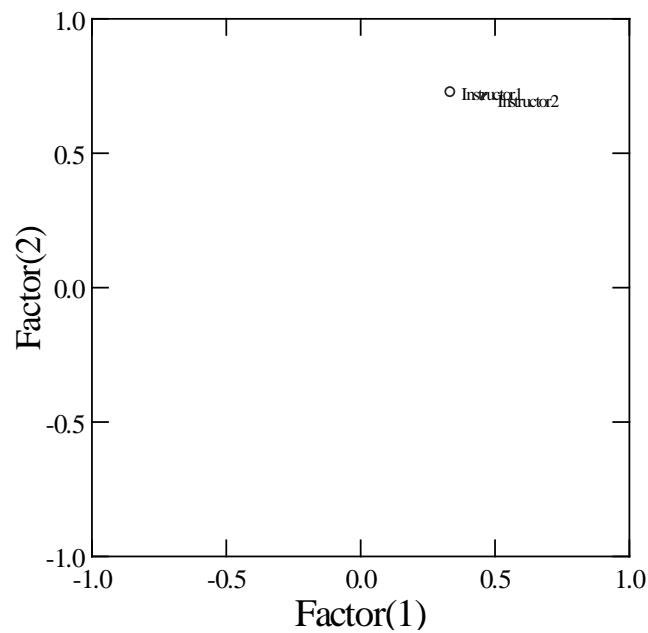


FIGURE 5: RESPONSE RATES, SPRING

FIGURE 7: PLOT OF CLASS 1 T6

TABLE 5: ITEM MEANS BY COURSE LEVEL

<b>Course Level (n)</b>	<b>ITEM 8</b>	<b>ITEM 15</b>
Level 100 (n = 338)		
Arithmetic Mean	4.36	4.19
Standard Deviation	0.39	0.39
Level 200 (n = 278)		
Arithmetic Mean	4.24	4.13
Standard Deviation	0.60	0.55
Level 300 (n = 559)		
Arithmetic Mean	4.25	4.12
Standard Deviation	0.60	0.59
Level 400 (n = 310)		
Arithmetic Mean	4.32	4.22
Standard Deviation	0.58	0.58
Level 500 (n = 234)		
Arithmetic Mean	4.47	4.35
Standard Deviation	0.55	0.56
Level 600 (n = 14)		
Arithmetic Mean	4.65	4.43
Standard Deviation	0.39	0.41
Level 700 (n = 15)		
Arithmetic Mean	4.65	4.52
Standard Deviation	0.45	0.47



TABLE 6: ITEM MEANS BY CLASS SIZE

<b>Class Size<sup>*</sup> (n)</b>	<b>ITEM 8</b>	<b>ITEM 15</b>
Size 1 to 10 (n = 700)		
Arithmetic Mean	4.38	4.27
Standard Deviation	0.61	0.61
Size 11 to 20 (n = 515)		
Arithmetic Mean	4.31	4.18
Standard Deviation	0.54	0.53
Size 21 to 30 (n = 230)		
Arithmetic Mean	4.31	4.16
Standard Deviation	0.51	0.48
Size 31 to 50 (n = 166)		
Arithmetic Mean	4.23	4.08
Standard Deviation	0.49	0.47
Size 51 to 100 (n = 98)		
Arithmetic Mean	4.11	3.99
Standard Deviation	0.48	0.42
Size – over 100 (n = 38)		
Arithmetic Mean	4.22	4.05
Standard Deviation	0.43	0.44

\* The number of students within the course who responded to the CES

