



STUDENT EVALUATION OF TEACHING REPORT TO SENATE December 2019

2018W SCOPE

A total of 8,744 instructor ratings were submitted to the University, for 7,141 course sections in which the University Module Items were administered. This represents a 9.7% increase in the number of instructor ratings compared to 2017W. A summary of the scope of implementation, by Faculty, is shown in Table 1.

Table 1. Scope of 2018W Implementation¹

FACULTY	NUMBER OF INSTRUCTORS EVALUATED ²					
	100 Level	200 Level	300 Level	400 Level	Grad	Total
Applied Science	91	163	229	243	341	1,067
Arts	704	446	784	485	390	2,809
Commerce	18	146	252	164	183	763
Dentistry	3	29	22	370	75	499
Education	26	97	313	314	217	967
Forestry	9	33	42	55	41	180
Land & Food Systems	9	25	57	50	50	191
Law		39	66	105	21	231
Medicine ³	12	21	80	100	264	477
Pharmaceutical Sciences	34	30	23	27	3	117
Science	317	262	364	201	253	1,397
Vantage College	46					46
TOTAL	1,269	1,291	2,232	2,114	1,838	8,744

¹ In accordance with the Senate Policy, courses of an independent nature, sections with very small enrolments and those where other forms of evaluation are more appropriate are not included in this analysis.

² Unique course section/instructor combination.

³ Includes Medicine courses evaluated by Science.



RESULTS

The median scores for the 6 UMI questions, by year level, are shown in Table 2. Percent favourable rating (agree or strongly agree) is given in parenthesis.

Table 2. 2018W Median Score and (Percent Favourable Rating) by Year Level^{1, 2, 3}

UMI	Year Levels						2017W Median
	100 Level	200 Level	300 Level	400 Level	Grad	Overall	
1. The instructor made it clear what students were expected to learn	4.3 (81%)	4.3 (80%)	4.3 (80%)	4.3 (82%)	4.4 (85%)	4.3 (81%)	4.2
2. The instructor communicated the subject matter effectively	4.2 (78%)	4.2 (77%)	4.3 (78%)	4.4 (81%)	4.5 (83%)	4.3 (79%)	4.2
3. The instructor helped inspire interest in learning the subject matter	4.2 (71%)	4.2 (73%)	4.3 (76%)	4.4 (80%)	4.5 (83%)	4.3 (75%)	4.2
4. Overall evaluation of student learning (through exams, essays, presentations, etc.) was fair	4.2 (78%)	4.2 (77%)	4.3 (79%)	4.4 (83%)	4.5 (84%)	4.3 (79%)	4.2
5. The instructor showed concern for student learning	4.2 (77%)	4.3 (81%)	4.3 (82%)	4.4 (85%)	4.6 (89%)	4.3 (82%)	4.3
6. Overall the instructor was an effective teacher	4.2 (78%)	4.3 (79%)	4.3 (79%)	4.4 (82%)	4.5 (85%)	4.3 (80%)	4.3

¹ Based on a 5-point scale, where 1= Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

² Interpolated Median (IMedian)

³ Percent favourable rating (in parenthesis) defined as the percentage of respondents who rated the instructor a 4 or 5.

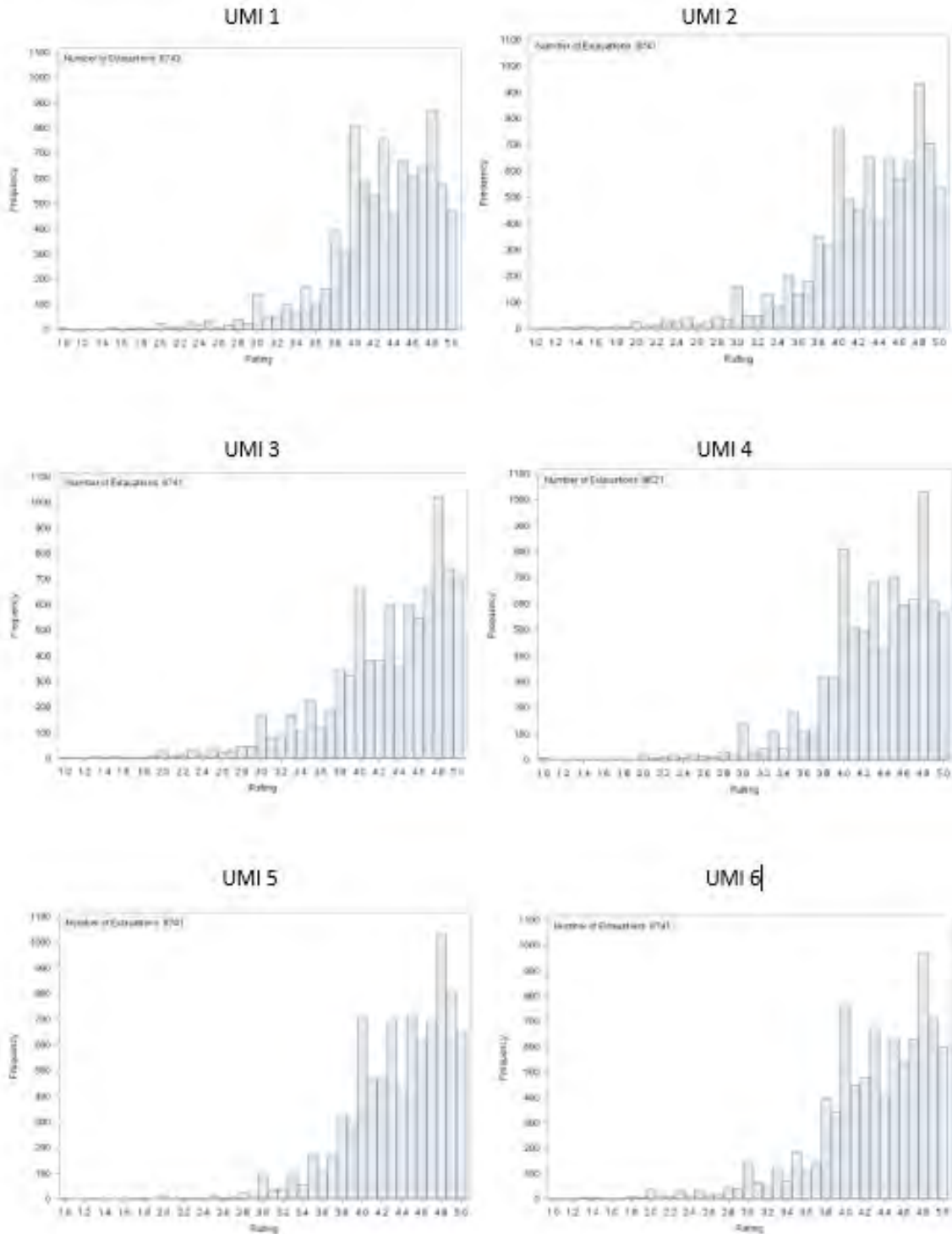
All reference to the median statistic in this report is for the Interpolated median (IMedian). The interpolated median is a special case of the median for discrete data, such as the student evaluation of teaching ratings based on a 5 or 7-point scale. The interpolated median is selected as a measure



of central tendency because it reflects the distribution of values around the median, and is closely associated with the instructor percent favourable ratings.

The distribution of the six UMI median ratings is shown in Figure 1 and summarized in Table 3.

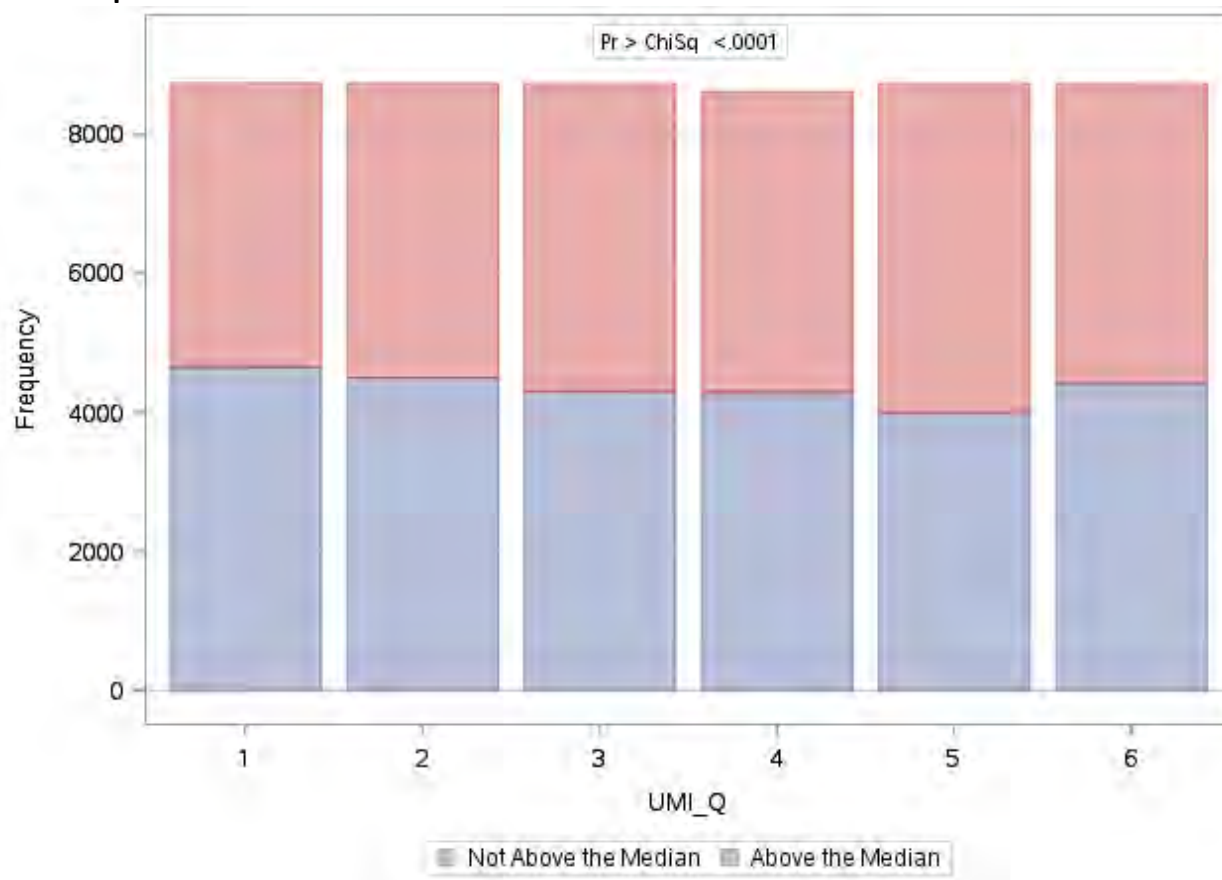
Figure 1. Distribution of Interpolated Median Ratings in 2018W



**Table 3. Percentiles of the six UMI ratings (Interpolated Median)**

UMI	5 th Percentile	25 th Percentile	50 th Percentile	75 th Percentile	95 th Percentile	Interquartile Range
1	3.3	4.0	4.4	4.7	4.9	0.6
2	3.2	4.0	4.4	4.7	4.9	0.7
3	3.1	4.0	4.4	4.7	4.9	0.8
4	3.4	4.0	4.4	4.7	4.9	0.7
5	3.5	4.1	4.4	4.7	4.9	0.6
6	3.2	4.0	4.4	4.7	4.9	0.7

Students' ratings of UMI question 5 (Instructor showed concern for student learning) were significantly higher compared to the other UMI ratings. There was a significantly ($p < 0.001$) higher proportion of UMI question 5 ratings above the overall median (Figure 2). These trends are similar to those of the previous year (2017W).

Figure 2: Frequencies of Interpolated Median above and below an overall median for UMI the six UMI questions



RESPONSE RATES

A summary of the 2018W response rates by class size is given in Table 4. In 2018W, 4,734 instructor ratings (54%) met or exceeded the minimum recommended response rate. The overwhelming majority (> 90%) of instructor ratings in sections with 75 or more students met or exceeded the minimum recommended response rate. These sections accounted for 53% of total enrollment. More than half the sections with 34 or less students did not meet the minimum recommended response rate. These sections accounted for 20% of the total enrollment in 2018. Response rates in 2018 are lower, compared to those of the previous 4 years, and this was mainly due to reasons associated with the implementation of a new, centralized system (Blue by eXplorance) e.g. in term 1, the survey period was shorter by two days and fewer email reminders were sent out due to system limitations.

Based on the results in Table 4, efforts to increase students' participation in online surveys will, therefore, continue to be more focused on smaller sections, and in particular sections with under 35 students.

Table 4. Sections Meeting or Exceeding the Recommended Response Rates¹

Class Size ¹	Course Sections	Number of Evaluations	Total Enrolment	Recommended Minimum Response Rate ²	% meeting minimum recommended	
					2018W	2017W
≤ 10	698	902	5,258	75%	26%	34%
11 -19	1,346	1,615	20,111	65%	33%	40%
20 -34	1,819	2,081	47,990	55%	43%	50%
35 - 49	1,136	1,338	46,680	40%	63%	70%
50 -74	829	1,128	49,985	35%	57%	78%
75 -99	367	421	31,717	25%	90%	95%
100 -149	482	593	58,094	20%	97%	90%
150 - 299	431	623	87,097	15%	95%	97%
300 - 499	32	42	10,627	10%	100%	100%
> 500	1	1	518		100%	-
Overall	7,141	8,744	358,077		54%	62%

¹ In accordance with the Senate Policy, courses of an independent nature, sections with very small enrolments and those where other forms of evaluation are more appropriate are not included in this analysis

² Zumrawi, A., Bates, S. & Schroeder, M (2014). What response rates are needed to make reliable inferences from student evaluations of teaching? *Educational Research and Evaluation: An International Journal on Theory and Practice*, 20:7-8, 557-563



MAGNITUDE AND VARIABILITY OF RATINGS

In this section, we examine the distribution of individual instructor ratings based on their interpolated median (IMedian), percent favourable rating and a measure of variability (dispersion index).

The distribution of instructor ratings for UMI questions 3 and 5, are shown in Tables 5 and 6, respectively. Average percent favourable rating for each cell is given in parenthesis. Percent favourable rating reflects the ratio of students who rated the instructor a 4 or 5 as a percentage of class responses. As would be expected, percent favourable rating decreases as dispersion increases in the first three rows, but increases with dispersion in the lower two rows. Thus, evaluations in the upper left cells have high ratings, with low variability, resulting in high percentages of favourable ratings. Whereas the lower left cells show low ratings, with low variability in students' scores, resulting in low percentages of favourable ratings. Furthermore, instructor evaluations in the bottom two rows, corresponding to an interpolated median of < 3.5, have percent favourable ratings that are below 50%.

Table 5: Distribution of Instructor Ratings for UMI Question 3 for Surveys Meeting the Minimum Recommended response Rate (% favourable rating in parenthesis).

IMedian	Variability in Instructor Rating (dispersion) ¹							Total	
	0	< 0.2	0.2 - 0.3	0.3 - 0.4	0.4 - 0.55	0.55-0.70	0.7-0.85		> 0.85
< 5.0	91 (100%)	493 (99%)	604 (96%)	573 (90%)	365 (83%)	39 (74%)	5 (70%)		2,170
< 4.5	1 (100%)	3 (100%)	68 (96%)	312 (87%)	749 (78%)	203 (72%)	21 (66%)	1 (71%)	1,358
< 4.0			7 (74%)	50 (65%)	305 (63%)	324 (59%)	46 (56%)	2 (53%)	734
< 3.5			2 (26%)	14 (37%)	91 (40%)	160 (42%)	38 (43%)	2 (47%)	307
< 3.0			1 (0%)	1 (6%)	29 (17%)	97 (24%)	34 (32%)	3 (36%)	165
									4,734

¹ Based on an ordinal dispersion index

As evident in Tables 5 and 6, most of the low ratings with low dispersion index (lower left cells of the tables) are from surveys that did not meet the minimum recommended response rates.



Table 6. Distribution of Instructor Ratings for UMI Question 5 for Surveys Meeting the Minimum Recommended response Rate (% favourable rating in parenthesis).

	Variability in Instructor Rating (dispersion) ¹							Total	
	0	< 0.2	0.2 - 0.3	0.3 - 0.4	0.4 - 0.55	0.55-0.70	0.7-0.85		> 0.85
IMedian	Number of Evaluations (% Favourable Rating in Parenthesis)								
< 5.0	87 (100%)	510 (99%)	854 (97%)	616 (90%)	193 (84%)	15 (74%)	2 (66%)	2,277	
< 4.5		6 (97%)	209 (95%)	658 (87%)	617 (79%)	70 (72%)	3 (68%)	1,563	
< 4.0		5 (77%)	23 (73%)	93 (68%)	415 (64%)	156 (59%)	20 (54%)	1 (50%)	713
< 3.5			1 (21%)	11 (41%)	53 (42%)	70 (42%)	11 (42%)	146	
< 3.0			1 (0%)		8 (20%)	24 (26%)	2 (29%)	35	
								4,734	

Tables 5 and 6 provide an analysis of UMI ratings and the associated variability in instructor rating, as measured by the dispersion index. As an example of how to interpret this, consider the middle row in Table 6. There are 713 instructor ratings within this rating band of UMI 5 score between 3.5 and 4.0. Of these, 93 have a dispersion index between 0.3 and 0.4, and within these 93 instructor ratings, there is (on average) 68% of respondents who rated their instructors favourably (the sum of 'agree' and 'strongly agree' categories on UMI 5).

Within this subset of the dataset, it would be plausible to find a median UMI score of e.g. 3.7, where more than two thirds of the student respondents rated the instructor favourably. This illustrates the additional insight gained from considering both the raw UMI score and the variability in instructor rating that this measure of dispersion provides.

Low ratings with high dispersion should be interpreted within context, considering factors such as response rate, class size and the magnitude of the dispersion. Few instructor ratings with extreme dispersion index, met the minimum recommended response rate (last column in Tables 5 and 6). It is worth noting that such extreme distributions, indicative of polarized ratings, are not common and mostly occur in smaller classes; often where the minimum recommended response rate is not met.

Graphical depictions of the data in Tables 5 and 6 are given in figures 3 and 4, respectively.



Figure 3: Graphical depiction of the distribution in Table 5, for UMI 3.

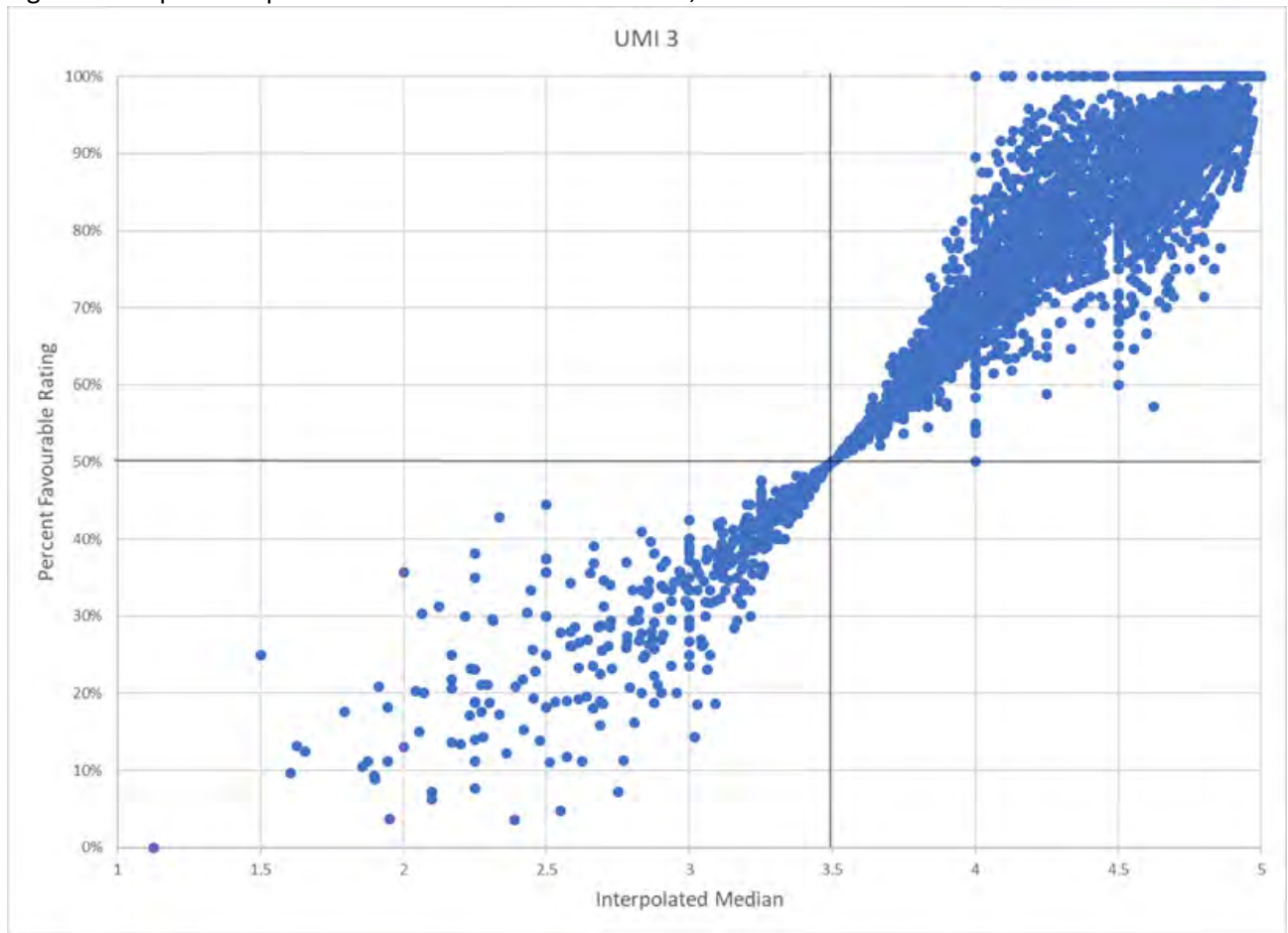
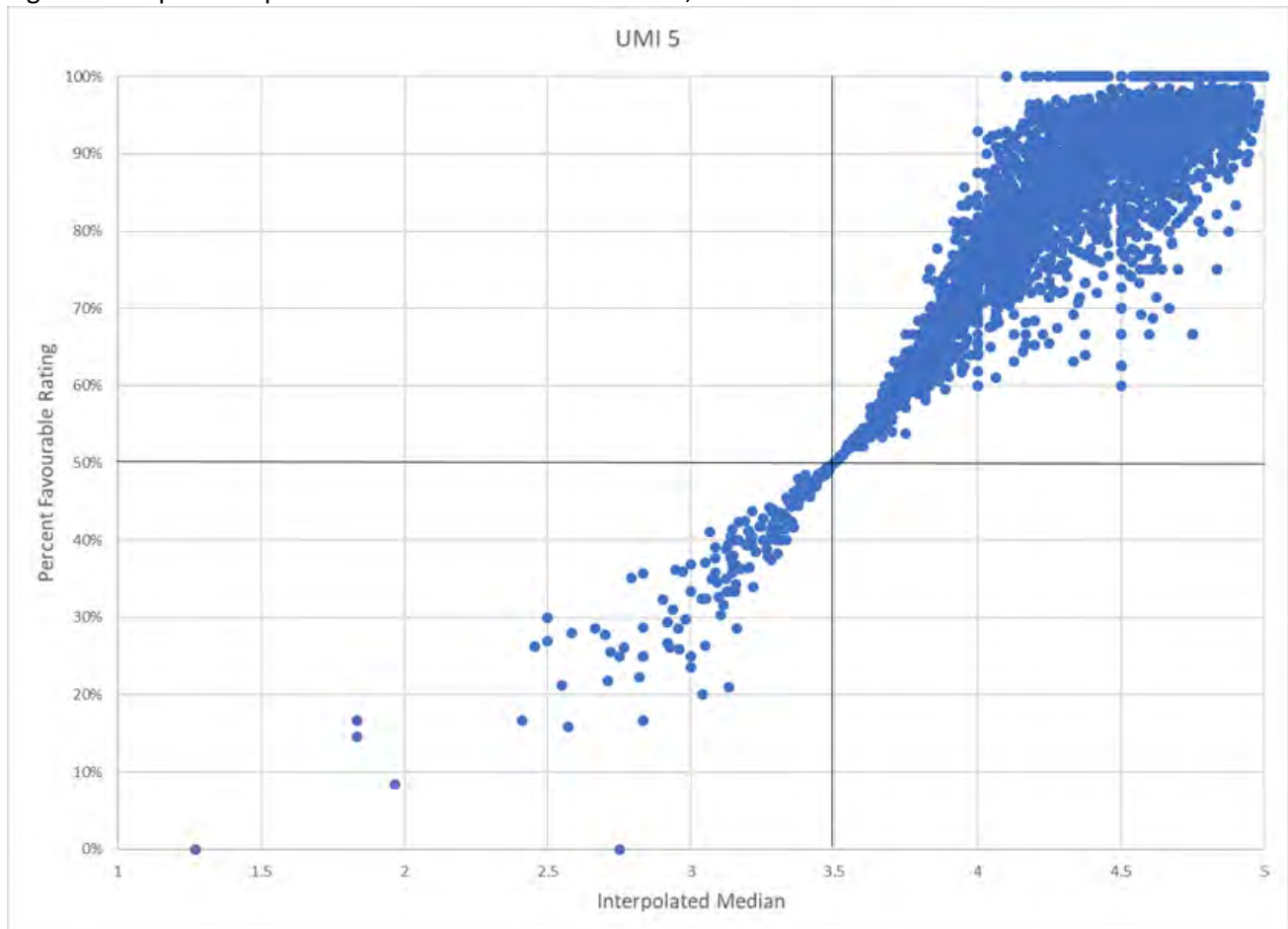




Figure 4: Graphical depiction of the distribution in Table 4, for UMI 5.



As evident in figures 3 and 4, the pivot point in the relationship between the interpolated median and percent favourable rating is 3.5 and 50%. This relationship is such that, no instructor evaluation with an interpolated median below 3.5 would have a percent favourable rating above 50%, nor would evaluations with an interpolated median above 3.5 have favourable ratings below 50%. As such, the upper right quadrant, in figures 3 and 4, corresponds to the first three rows in Tables 5 and 6. Instructor evaluations in this quadrant received favourable ratings of 50% or higher. Likewise, the lower left quadrant corresponds to the bottom two rows in the tables and includes evaluations with less than 50% favourable ratings.



IN-CLASS SUBMISSIONS AND RESPONSE RATES

At the beginning of the 2013 academic year, the Provost's office requested that instructors set aside time in class for students to complete online surveys. To determine whether this had an impact, we used survey submission time stamps as a proxy for compliance. A high proportion of submissions within a 15-minute time span could indicate that submissions were done in-class (random checks of the course schedule indicated that this assumption was reasonable).

Over the past four years, we monitored and consistently observed an increase in response rates and decrease in the variance of these rates as the proportion of in-class submissions increase.

We, therefore, encourage faculty members to set aside time in class for students to complete online evaluations. Those students who cannot complete the evaluations in the time given, can save them and complete them later.

Information about Student Evaluation of Teaching at UBC is available at <http://teacheval.ubc.ca>.