

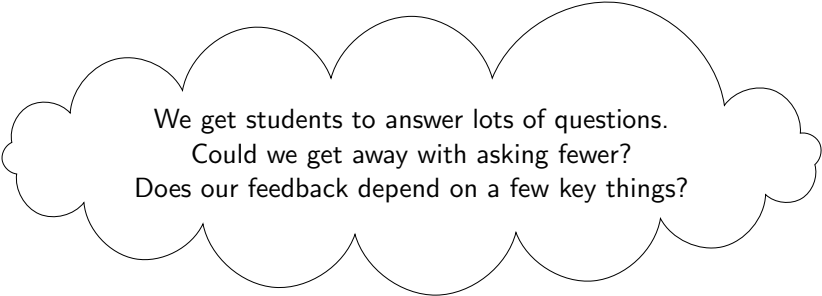
A statistical analysis of student feedback and the NSS: what do students really evaluate?

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Motivation



We get students to answer lots of questions.
Could we get away with asking fewer?
Does our feedback depend on a few key things?

Data investigated

- ▶ Student feedback from 2013/14
- ▶ Over 2500 responses from 54 modules
- ▶ Questionnaires (paper) distributed out in a lecture towards the end of a module
- ▶ 17 statements on (definitely disagree, mostly disagree, neither a/d, mostly agree, definitely agree) scale
- ▶ Statements aligned to NSS
- ▶ Consider % of students who at least 'agreed'

The questionnaire



Appendix 1 - Cardiff University Module Evaluation

Module Code: XXXXXX

Module Title: XXXXXXX

For each statement, show the extent of your agreement or disagreement by putting a tick in the one box that best reflects your current view of the module. Your responses to all questions are anonymous.

	Definitely agree	Mostly agree	Neither agree nor disagree	Mostly disagree	Definitely disagree	Not applicable
Teaching and academic support						
1. I had a good idea of what to expect from this module.						
2. The teaching staff were good at explaining things.						
3. I was able to contact teaching staff when I needed to.						
4. The module inspired interest and was intellectually stimulating.						
5. The module met my expectations in terms of the knowledge I have gained.						
6. I feel confident in communicating the knowledge I have gained on the module.						
7. The module has helped my personal development by improving my employability skills (e.g. presentation skills, communication skills).						
Resources and learning environment						
8. The range of the module's resources (on Learning Central and/or in paper form) has effectively supported my learning.						
9. Reading materials (books, journals, etc.) for this module were readily accessible.						
10. The teaching rooms used for this module were suitable for the style of delivery.						
Assessment						
11. I had a clear sense of what is required of me in the assessment/s for this module.						
12. The criteria used to mark my work were made clear in advance.						
13. Feedback on my marked work was provided within the specified timeframe.						
14. Feedback has helped me to clarify things I did not understand.						
Organisation and management						
15. The module has been well organised.						
16. Any changes in the module or teaching were communicated effectively.						
Overall satisfaction						
17. Overall, I am satisfied with the quality of this module.						

Overall quality

Statements with highest correlation with overall quality (Q17):

Q1	Good idea what to expect	0.83
Q2	Good at explaining	0.87
Q5	Met my expectation	0.84
Q15	Module well organised	0.91

Factor analysis

- ▶ Factor analysis is a statistical method used to describe variability among observed, correlated variables in terms of a potentially lower number of unobserved variables called factors.
- ▶ For example, it is possible that variations in 17 observed variables mainly reflect the variations in three unobserved variables (or factors).

Our findings

1. Responses to the 17 questions can be reduced to 3 factors.
2. Factors are in decreasing order of importance.
3. Items within factors are in decreasing order of importance.

Factor 1

- Q5 met my expectation
- Q17 overall quality
- Q2 lecturer good at explaining
- Q6 improved my confidence in communicating
- Q4 module was inspiring
- Q1 I had a good idea of what to expect
- Q15 module was well organized
- Q11 I had a clear sense of the assessment
- Q16 changes communicated effectively

What this means

1. All these questions are highly correlated.
2. Not much extra value obtained by asking all of these questions.
3. Items within factors are in decreasing order of importance.
4. This factor is about expectations and quality.

Factor 2

- Q9 reading materials available
- Q8 range of resources available helped
- Q10 teaching rooms were fine
- Q3 contact staff when I needed

What this means

1. All these questions are highly correlated.
2. Not much extra value obtained by asking all of these questions.
3. Items within factors are in decreasing order of importance.
4. This factor is about resources.

Factor 3

Q13 feedback given in time

Q14 feedback helped me

Q12 feedback criteria made available in advance

What this means

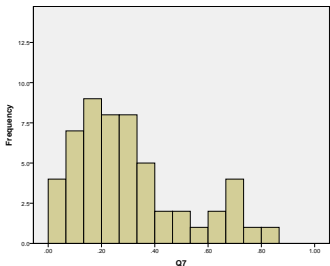
1. All these questions are highly correlated.
2. Not much extra value obtained by asking all of these questions.
3. Items within factors are in decreasing order of importance.
4. This factor is about feedback.

Implications

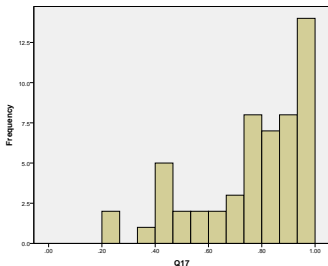
- ▶ 75% of the variation in responses is explained by these three factors.
- ▶ It suggests that you would get nearly as much information by instead of asking agreement for 17 statements, ask something like these instead:
 1. Overall, I was satisfied with the quality of the module (Q17 as it stands)
 2. Overall, I was satisfied with the resources that were available.
 3. Overall, I was satisfied with the feedback that was given to me.

The missing statement...

- ▶ All the statements belonged to at least one factor.
- ▶ One statement stood out as 'not belonging' to any of the previous categories.
- ▶ Q7: The module has helped my personal development by improving my employability skills.



(a) Q7



(b) Q17

National Student Survey

THE TEACHING ON MY COURSE

- Q1. Staff are good at explaining things
- Q2. Staff have made the subject interesting
- Q3. Staff are enthusiastic
- Q4. The course is intellectually stimulating

ASSESSMENT AND FEEDBACK

- Q5. The criteria used in marking have been clear
- Q6. Assessment arrangements and marking have been fair
- Q7. Feedback on my work has been prompt
- Q8. I have received detailed comments on my work
- Q9. Feedback on my work has helped me clarify things

ACADEMIC SUPPORT

- Q10. I have received sufficient advice and support
- Q11. I have been able to contact staff when I needed to
- Q12. Good advice was available

ORGANISATION AND MANAGEMENT

- Q13. The timetable works efficiently
- Q14. Changes have been communicated
- Q15. Course is well organised

LEARNING RESOURCES

- Q16. Library services are good enough
- Q17. Can access IT
- Q18. Can access specialised equipment

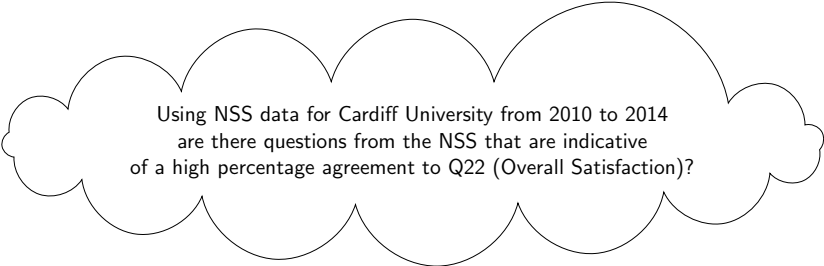
PERSONAL DEVELOPMENT

- Q19. Helped me present myself
- Q20. Communication has improved
- Q21. Confident in tackling unfamiliar problems

OVERALL SATISFACTION

- Q22. Overall, I am satisfied with the quality of my course

Question



Using NSS data for Cardiff University from 2010 to 2014
are there questions from the NSS that are indicative
of a high percentage agreement to Q22 (Overall Satisfaction)?

Final regression model

$$Q22 = 0.168Q1 + 0.143Q2 + 0.263Q4 + 0.097Q6 + 0.128Q12 \\ + 0.247Q15 + 0.121Q16 + 0.213Q21$$

- ▶ All parameters statistically significant at 5% level
- ▶ $R^2 \approx 70\%$
- ▶ Most 'indicative' question: Q4 (Intellectually stimulating), but all of above are important.

Matrix of factor loadings

	1	2	3	4	5	6
Q1	0.756					
Q2	0.808					
Q3	0.763					
Q4	0.669					0.440
Q5		0.442				
Q6			0.433			0.512
Q7		0.798				
Q8		0.889				
Q9		0.762				
Q10						0.600
Q11						0.719
Q12				0.451		0.618
Q13			0.839			
Q14			0.865			
Q15			0.781			
Q16						
Q17					0.702	
Q18					0.850	
Q19					0.804	
Q20				0.834		
Q21				0.862		
Q22	0.811					

Thanks for listening!

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