# What students really evaluate when they fill out questionnaires: A Cardiff case study and the NSS 

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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. |  |  |  |  |  |  |

## Initial analysis: response rate



Figure: Overall quality against response rate

If the missing students did turn up, would the score go up, or down?
Linear regression:
$\mathrm{Q} 17 \approx 0.5+0.5$ Response rate
But are the missing students likely to be your biggest fans?

## Initial analysis: response rate

Response rate had a significant positive correlation with all but two statements on our questionnaire.

There was no significant correlation between response rate and:

- Q12: criteria used to mark my work were made clear in advance
- Q13: feedback on my marked work was provided within the specified timeframe


## 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 making 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



## Final regression model

$$
\begin{array}{r}
\mathrm{Q} 22=0.168 \mathrm{Q} 1+0.143 \mathrm{Q} 2+0.263 \mathrm{Q} 4+0.097 \mathrm{Q} 6+0.128 \mathrm{Q} 12 \\
+0.247 \mathrm{Q} 15+0.121 \mathrm{Q} 16+0.213 \mathrm{Q} 21
\end{array}
$$

- 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 |  |  |  |  | 0.440 |
| Q4 | 0.669 |  |  |  |  |  |
| Q5 |  | 0.442 |  |  |  | 0.512 |
| Q6 |  |  | 0.433 |  |  |  |
| Q7 |  | 0.798 |  |  |  |  |
| Q8 |  | 0.889 |  |  |  |  |
| Q9 |  | 0.762 |  |  |  | 0.600 |
| Q10 |  |  |  |  |  | 0.719 |
| Q11 |  |  |  | 0.451 |  | 0.618 |
| Q12 |  |  | 0.839 |  |  |  |
| Q13 |  |  | 0.865 |  |  |  |
| Q14 |  |  | 0.781 |  |  |  |
| Q15 |  |  |  |  | 0.702 |  |
| Q16 |  |  |  |  | 0.850 |  |
| Q17 |  |  |  |  | 0.804 |  |
| Q18 |  |  |  | 0.834 |  |  |
| Q19 |  |  |  | 0.862 |  |  |
| Q20 |  |  |  |  |  |  |
| Q21 | 0.811 |  |  |  |  |  |

Thanks for listening!
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