

Student Satisfaction, Perceived Understanding, and the Role of Feedback

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"Understanding" can be a dangerously nebulous term, especially in the context of learning outcomes – it can mean different things to different people and, crucially, is very hard to measure or assess. – reviewer



Evaluations of Learning & Teaching

"I understand the concepts included in this course"

"I receive an appropriate level of feedback to assist my learning in this course"

"The assessment in this course allows me to demonstrate my understanding of key concepts"

Aims of the Study

A SELT of over 700 students in engineering was carried out to investigate the basic questions:

1. How do students react to being asked to identify themselves on a survey?
2. Is the happy student the performing student?
3. Do students have a good understanding of their ability/performance in a course?

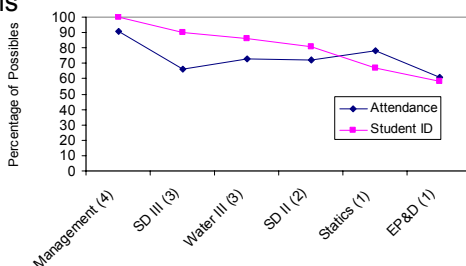
Study Details

Students in six courses over all four years of an engineering program were asked to fill in SELT forms and provide their Student ID.

Course	Number of Students
Engineering Planning and Design (1)	348
Statics (1)	453
Structural Design (2)	92
Water Engineering and Design (3)	70
Structural Design (3)	59
Civil Engineering Management (4)	45

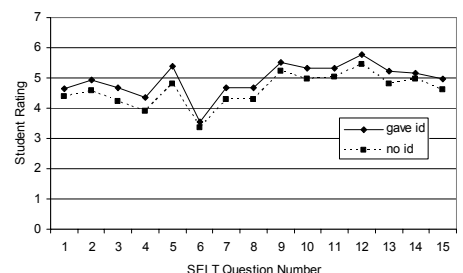
Those who gave their Student ID

- were more likely to come from higher year levels



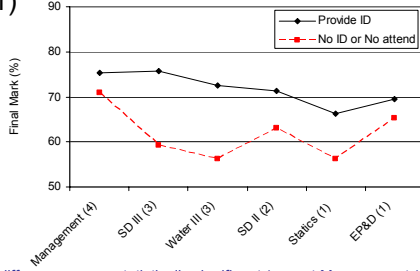
Those who gave their Student ID

- were more likely to be giving a better rating



Those who gave their Student ID

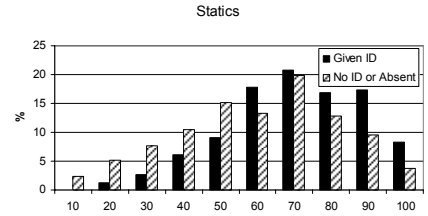
- were more likely to do better in the final exam* (1)



All differences were statistically significant (except Management (4)).

Those who gave their Student ID

- were more likely to do better in the final exam* (2)



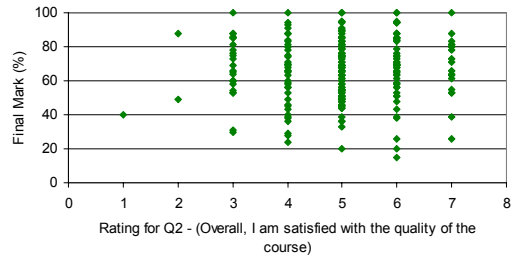
Is the Happy Student the Performing Student?

Researchers in the past have suggested this may be the case:

- marking leniency;
- students who enjoy the course will tend to work harder and do better;
- students who expect to do better will tend to feel better about the course and therefore do better.

Is the Happy Student the Performing Student?

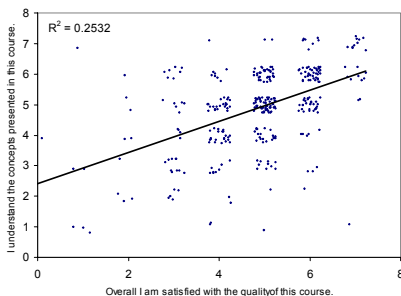
No.



Is the Student Who Believes he/she Understands the Happy Student?

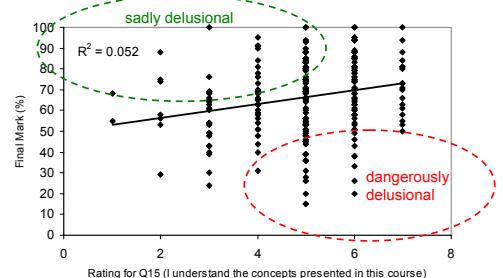
Yes.

Plot has been "exploded" to demonstrate the relative number of points for each combination of responses.



Is the Student Who Believes he/she Understands the Performing Student?

No!



Quality of Feedback

In previous research it has been found that “teachers consistently thought they provided more and better feedback than their students felt they received”. – (Prystowsky and DaRosa, 2003)

Prystowsky, J.B. and DaRosa, D.A. (2003) A Learning Prescription Permits Feedback on Feedback. *The American Journal of Surgery*, 185, 264-267.

Importance of Feedback

“Learners expecting feedback chose a more systematic strategy, which led to more motivation during learning, that finally resulted in a better learning outcome.” - Vollmeyer and Rheinberg (2005)

Vollmeyer, R. and Rheinberg, F. (2005) A Surprising Effect of Feedback on Learning. *Learning and Instruction*, 15, 589-602.

Importance of Feedback

“If students sense that a course is badly implemented, that they are overloaded with work, that there are no clear goals and poor feedback then they are more likely to respond with surface than deep approaches, irrespective of the pedagogy or the technology being deployed by the teacher.” – Ellis et al. (2007)

Ellis, R.A.; Goodyear, P.; Calvo, R.A. and Prosser, M. (2007) Engineering Students' Conceptions of and Approaches to Learning Through Discussions in Face-to-Face and Online Contexts. *Learning and Instruction*, (In Press), 16pp.

UK Experience with Feedback

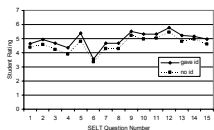
The National Student Survey run nationally in the UK has consistently shown that the scale addressing Assessment and Feedback “was the least positively evaluated in all years and had one of the smallest increases over time”. (Surridge, 2008).

Surridge, P. (2008) The National Student Survey 2005-2007: Findings and Trends. A Report to the Higher Education Funding Council for England, Bristol: University of Bristol. (Viewed on line at http://www.hefce.ac.uk/pubs/RDreports/2008/rd12_08/rd12_08.pdf on 12 February 2009.)

U. of Adelaide SELT Results

In 2008, university surveys where students rated the feedback they received:

- 861 surveys
- 33120 students
- mean rating 4.7
- 58% broad agreement (sum of Likert 5 to 7) (77% broad agreement for satisfaction for the course)



Types of Feedback

Peterson and Irving (2008) categorise feedback as:

- **outcome feedback** (knowledge of results);
- **corrective feedback** (provision of the correct answers);
- **process feedback** (explicit information for adapting study strategies).

Process Feedback Strategies¹

Releasing marks and grades when the student has responded appropriately with a plan to incorporate the feedback (Buswell & Matthews, 2004)

Buswell, J. & Matthews, N. (2004) Feedback on Feedback! Encouraging students to use feedback: a University of Gloucestershire case study. Journal of Hospitality, Leisure, Sport and Tourism Education 3(1), 61-67.

Process Feedback Strategies²

Giving students an optional pre-submission deadline which, if they meet it, allows them to receive feedback prior to final submission (p.c. Falkner, 2009)

Process Feedback Strategies³

Keeping a copy of a draft report and checking to see whether changes were made and suggestions taken up.

(Telling students this will be done tends to be quite effective!)

Another Type of Feedback

In addition to **outcome, corrective and process feedback** there is a role for:

- **comparative feedback** (provision of information to foster student reflection by allowing relative standing or relative performance to be determined)

Feedback allows them “to compare their own self-assessment with the assessments of their teachers”. - Prystowsky and DaRosa (2003)

Comparative Feedback Strategies¹

Ensure students are aware of their relative performance by:

- providing exemplars (also a form of corrective feedback)

Comparative Feedback Strategies²

Ensure students are aware of their relative performance by:

- having them mark each other's work (for selected submissions) – Topping (1998), Kruger and Dunning (1999)

Kruger, J. and Dunning, D. (1999) **Unskilled and Unaware of It: How Difficulties in Recognizing One's Own Incompetence Lead to Inflated Self-Assessments**. Journal of Personality and Social Psychology, 77(6), 11121-1134.

Topping K (1998) Peer Assessment Between Students in Colleges and Universities; Review Of Educational Research 68; 249

Comparative Feedback Strategies³

- providing class results statistics (attendance, average marks, spread of marks) and
- general comments on what was done well and what was done poorly

(Students who did not attend a session or who did poorly soon see they are not running with the pack!)

In Closing ...

1. There are benefits from identifiable survey returns (although they are not without costs).
2. Students rated courses based on how well they believed they understood the material.
3. Students had a poor understanding of their own level of understanding of the material.
4. There is a need for a feedback strategy to inform students of their own understanding and to cause them to reflect on it.
5. Feedback that allows them to compare their own performance with others may be effective.