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Reflections and use of feedback from the online summative assessments in two statistics modules: a dialogue between students and educators

Samantha Alvarez Madrazo & Nick Jayanth
School of Public Health
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Assessment and feedback

Coexisting activities

“Sustainable assessment meets the needs of the present and [also] prepares students to meet their own future learning needs”

Boud, D. (2000). Sustainable Assessment: Rethinking Assessment for the Learning Society. *Studies in Continuing Education* 22 (2): 151-167.

“Feedback involves dialogic processes whereby learners make sense of information from various sources and use it to enhance their work or learning strategies”

Carless, D. (2016). Feedback as Dialogue (p2). In *Encyclopedia of Educational Philosophy and Theory* (pp. 1–6). Springer Singapore. https://doi.org/10.1007/978-981-287-532-7_389-1

Where are the gaps?

At Imperial level

Imperial's National Student Survey report:
Assessment and feedback has consistently ranked in the bottom quartile

At our modules' level

Less than 10% of response to modules' surveys

Context of the two statistics modules

Masters of Public Health Online

Part-time postgraduate students based worldwide, with variety of backgrounds

Duration: 2 or 3 year pathway

Year 1

Term 2

Statistics for Public Health (5 ECTS)

Summative assessments:

Scenario with research question, description of a data set and corresponding R output.

- **Part 1:** 350-word abstracts to answer research question – 65%
- **Part 2:** MCQs (30 min) – 10%
- **Part 3:** Free-text questions (60 min) – 10%

Year 2/3

Term 1

Advanced Statistics and Intro to Data Science (5 ECTS)

Summative assessments:

Scenario with research question, description of a data set and corresponding R output.

- **Part 1:** A 350-word abstract to answer research question - 65%
- **Part 2:** 10 MCQ about useful/not useful in R output (30 min) – 10%
- **Part 3:** Free-text questions related to R output (60 min) – 10%

Feedback provided for summative assessments

Year 1

Term 2 — **Statistics for Public Health (STATS)**

Feedback for summative assessments:

- **Part 1: individual feedback and cohort level feedback**
- **Part 2:** automated feedback
- **Part 3: cohort level feedback**
- Feedback for Part 1 and 3 released same day as marks (~ 4 weeks after assessment)

Year 2/3

Term 1 — **Advanced Statistics and Intro to Data Science (ASIDS)**

Feedback for summative assessments:

- **Part 1: individual and cohort level feedback**
- **Part 2:** automated feedback
- **Part 3: individual and cohort level feedback**
- Feedback for Part 1 and 3 released same day as marks
- (~ 4 weeks after assessment)

Research question for an evaluation:

How students reflected on feedback provided for their main assessment (STATS or ASIDS)?

Methodology

We conducted 3 focus groups on Microsoft Teams with 5 participants in total
Each focus group lasted maximum one hour
Value of focus groups: interactions
Evaluation piece of work
Focus group interviews structured around two areas:

Part 1: How clear was the feedback received for Part 1 and Part 3 (what they did well, could improve and how to take it forward)

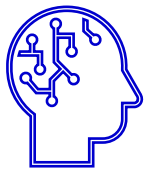
Part 2: Discuss examples of feedback

Preliminary analysis using a thematic analysis (Braun and Clarke, 2021) and as framework the problems proposed by Winstone and Boud (2022) about assessments being entangled.

Braun, V. and Clarke, V., 2021. Thematic analysis: A practical guide. London, Sage.
Winstone, N. E., & Boud, D. (2020). The need to disentangle assessment and feedback in higher education. *Studies in Higher Education*, *47*(3), 656–667. https://doi.org/10.1080/03075079.2020.1779687

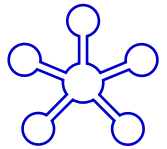
Results

Grades



Future

Time



AI

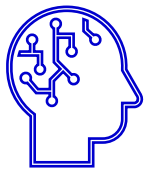
Results

‘There are basically two channels:
The pay the fees, write the exam, get the certificate
But it would be nice for those of us who really want to engage to feel more of a sense of community and a cohort’. (SA, FG1)

Grades

Results

‘It’s the second time we’ve done it. I took the feedback from the first round and I built into it. By the time I did the 2nd abstract, I felt like I nailed it....
I am going to do a research project that is quantitative data in nature and it will directly lead me doing that project better’. (USA, FG1)



Future

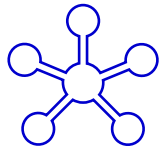
Results

‘In an hour it’s ridiculous to try and do that. It adds…a level of stress that impacts one’s ability to think…You’re testing whether they can do that under that level of stress. That’s not valid’. (USA, FG1)

Time

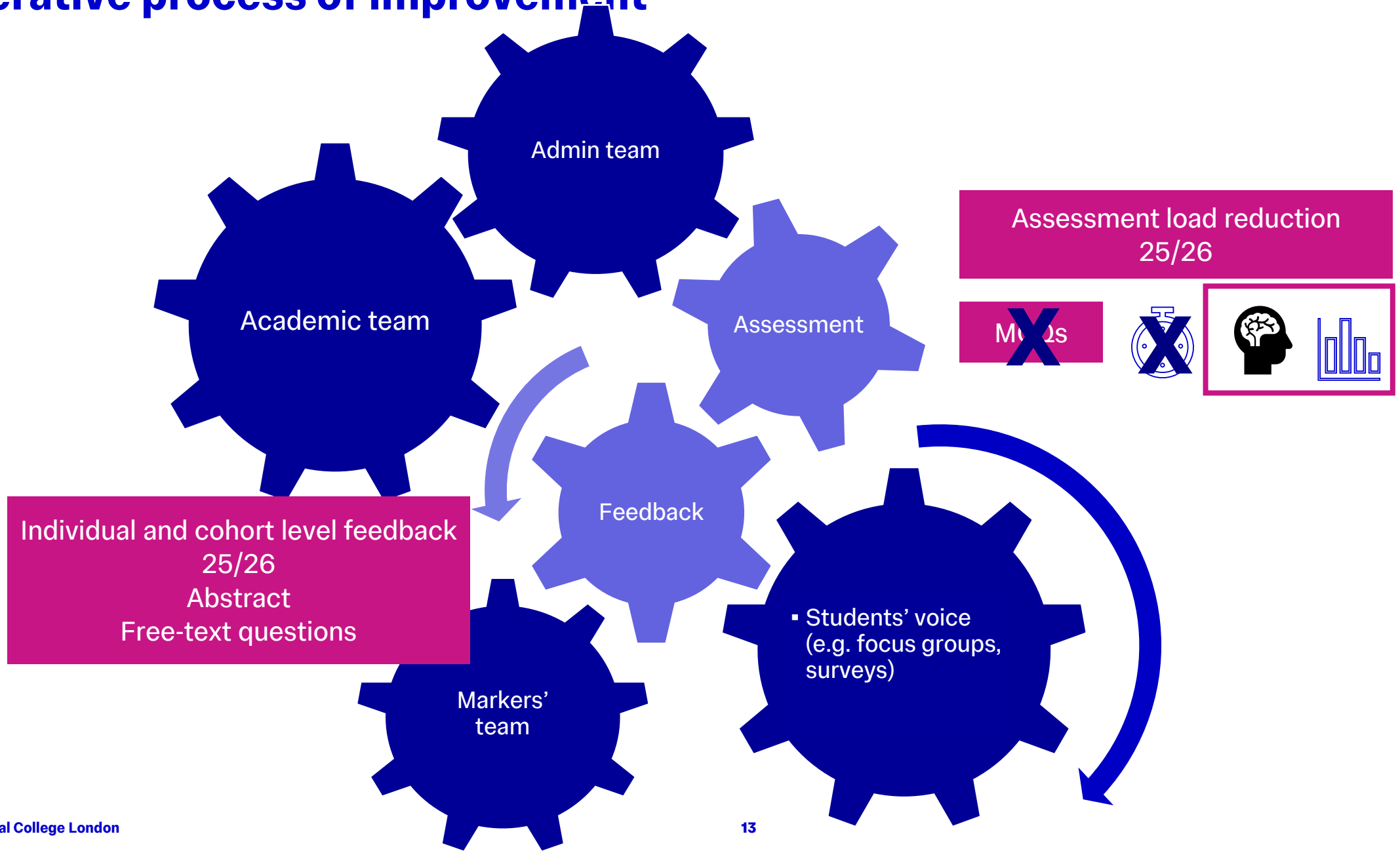
Results

‘I’m doing this course because I want to learn this stuff…that’s a completely different mindset. A good portion of my cohort are working full-time and just need a credential for the next promotion…These perspectives affect how to use AI through the course’. (USA, FG1)



AI

Iterative process of improvement



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Thank you

Reflections and use of feedback from the online summative assessments in two statistics modules: a dialogue between students and educators
24/13/2025

Modules structures and assessments 2024/25

Both modules are delivered in 16 weeks.
Main content is covered in the first 11/12 weeks.

Year 1

Term 2 — **Statistics for Public Health (STATS)**

Module structure:

Week 1-3 Intro Statistics, types of variables, distributions, R/Rstudio
Weeks 4-7 Correlation, linear regression, model building
Weeks 8-9: Logistic regression
Weeks 10-12: Survival analysis, Cox regression
Weeks 13-14: Mock assessment

Summative assessments:

- **MCQs** from week 1-6 – 15%

Scenario with research question, description of a data set and corresponding R output.

- **Part 1:** 350-word abstracts to answer research question – 65%
- **Part 2:** MCQs (30 min) – 10%
- **Part 3:** Free-text questions (60 min) – 10%

Year 2/3

Term 1 — **Advanced Statistics and Intro to Data Science (ASIDS)**

Module structure:

Weeks 1-4 Intro to risk profiling, Poisson regression, ethics and governance
Weeks 5-11 Imputation and multilevel modelling
Weeks 12-13 Mock assessment

Summative assessments:

- **MCQs from Week 1-7 – 15%**

Scenario with research question, description of a data set and corresponding R output.

- **Part 1:** A 350-word abstract to answer research question - 65%
- **Part 2:** 10 MCQ about useful/not useful in R output (30 min) – 10%
- **Part 3:** Free-text questions related to R output (60 min) – 10%

Feedback provided for summative assessments

Year 1

Term 2 — **Statistics for Public Health (STATS)**

Year 2/3

Term 1 — **Advanced Statistics and Intro to Data Science (ASIDS)**

Informal feedback for both modules:

- Two readings: one with FAQs, one with examples with published abstracts and feedback for each section
- Live session to discuss mock assessment

Feedback for summative assessments:

- MCQs: Cohort level feedback per question released
- ~ 2 weeks after submission

- **Part 1: individual feedback and cohort level feedback**
- **Part 2:** automated feedback
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Feedback for summative assessments:

- MCQs: Cohort level feedback per question released

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- **Part 1: individual and cohort level feedback**
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Focus groups participants

	Number of participants	Country when they took module	Module
Focus Group 1 (FG1)	2	South Africa	ASIDS
		United States of America	ASIDS
Focus Group 2 (FG2)	2	China	STATS
		Hong Kong	STATS
Focus Group 3 (FG3)	1	Mexico	STATS

Results - themes

1. Focus on grades
2. Informal feedback
3. Formal feedback (structure, timing, how to use it in the future)
4. Part 2 &3 being timed
5. AI use

Reflections and lessons learned

From Winstone and Boud (2022) we focused on three problems:

1) Students' focus on grades

YES Sub-group 1: consuming content, getting marks and certificate

NO Sub-group 2: keen to learn, combine grades and feedback

2) Comments justify grades rather than support learning

No, they do support learning not only of STATS and ASIDS but also of the research project

3) Feedback too late to be useful

Even if it is late, they prefer the marking and feedback is done correctly

Winstone, N. E., & Boud, D. (2020). The need to disentangle assessment and feedback in higher education. *Studies in Higher Education*, *47*(3), 656–667. https://doi.org/10.1080/03075079.2020.1779687

Reflections and lessons learned

4) Use of AI

Use reflective questions

Continue looking for a safer format to share scenario, research questions and R output

Continue looking for better free-text questions

Reflections and lessons learned

	Number of students enrolled	Number of students assessed	Number of students resitting
ASIDS autumn 24/25	40	40	0
STATS spring 24/25	63 (excluding students who interrupted mid-term)	62 (one student completed term, then interrupted and did not do final assignment)	8 (13%)
ASIDS autumn 23/24	30	30	3 (10%)
STATS spring 23/24	77	77	17 (22%)
ASIDS autumn 22/23	48	48	2 (4%)
STATS spring 22/23	73	73	26 (36%)