Behavioural insight for learning

Since 2016 the Learning Innovation team has engaged in research into the Learning Behaviours of Open University (OU) students in order to inform the design and development of learning experiences.

Study objectives

1. What are the learning behaviours of OU students?
2. Are these learning behaviours represented throughout the OU student population?
3. Is there a significant relationship between combinations of learning behaviours and student outcomes?

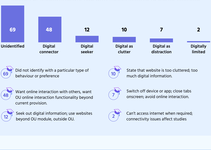
1. Getting to know our students 2016

Themes

The 'Study habits and hacks' survey asked students about their approach to digital study, and examined the underlying learning processes behind those behaviours. Analysis revealed key themes that began to describe the behaviour of students while learning.

Digital behaviour and preferences

A subset of the respondents (65%) identified certain categories of digital behaviours related to preferences in their learning. Around 6% of this subset identified with more than one category.



Key takeaways

- This preliminary study indicated interesting patterns of behaviour, which needed to be validated against a more general population of OU students.

METHODOLOGY
- 15 questions
- 186 responses
- Thematic analysis

Click here to download the full research report

2. Learning behaviours of OU students 2017

Learning behaviours

The 2017 Learning Behaviour survey gained a deeper insight into the underlying study habits and learning behaviour of OU students.

The survey used 55 statements about attitudes and preferences to identify seven distinct Learning Behaviours. Statements relating to digital skills also captured students' technological self-efficacy.

Time
Students with a high TIME score tend to plan their study sessions. They tend to keep to a study schedule and keep up with the work for the module.

Goal-setting
A student with a high GOAL score tends to have a tendency to set goals and plan ahead.

Focus
A student with a high FOCUS score tends to avoid online and distraction, including online.

Note-making
A student with a high NOTE score tends to make notes. This concept includes physical storage of notes.

524 responses received

7 behaviours identified

Help-seeking
A student with a high HELP score tends to connect with other people for support with their studies.

Elaboration
A student with a high ELAB score tends to seek information and relate new ideas to ones already known.

Digital
A student with a high DIGI score tends to use digital technologies or media.

Tech-SE
Technological self-efficacy is not a behaviour, but a selection of statements from the OU's Digital Competency Framework for Level 1 students.
A high TECH-SE score indicates the student's degree of confidence in their digital skills.

Interpreting learning behaviours

Throughout the learning and studying process, students display Learning Behaviours at different degrees of intensity.

In the survey, participants indicated the degree to which they agreed or disagreed with a statement. Principle component analysis then revealed both the individual student's Learning Behaviours and the Learning Behaviours of the entire cohort of participants.

*Concept loading has been standardised (centre on zero) to allow comparison across the entire cohort of students

Key takeaways

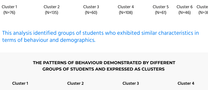
- This survey validated the themes from the 2016 survey and were subsumed into the Learning Behaviours.
- Analysis confirmed seven robust and distinct Learning Behaviours.
- Analysis can demonstrate an individual student's pattern of Learning Behaviour, and patterns of behaviour can exist within groups of students.
- Although the statements themselves were not directly linked or weighted to being a successful student, and instead focused on deriving information about behaviour and preference, subsequent research began to reveal potential connections between behaviour and student success.

METHODOLOGY
- 55 behavioural and attitudinal statements
- 524 responses
- Principle component analysis

3. Patterns of behaviour 2017

Identifying clusters of behaviour in OU students

Following on from the Principle Component Analysis, which confirmed seven Learning Behaviours, a hierarchical cluster analysis of the participant cohort was conducted.



This analysis identified groups of students who exhibited similar characteristics in terms of behaviour and demographics.

Key takeaways

- A hierarchical cluster analysis explores patterns within the data.
- This analysis used the Learning Behaviour scores to produce the clusters.
- The 55 behavioural and attitudinal statements were not directly linked or weighted to being a 'successful' student, but focused on deriving information about behaviour and preference.
- To begin to answer the question of Learning Behaviours and success, further research was needed.

METHODOLOGY
- 524 responses
- Hierarchical cluster analysis

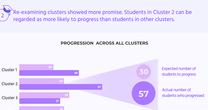
Click here to download the full research report

4. Learning Behaviours and success 2020

Do students who progress display particular patterns of Learning Behaviour?

With the benefit of three additional years of outcome data for the 2017 cohort, in 2020 we were able to build a more complete picture of Learning Behaviours and successful outcomes.

1. First, we explored progression against each individual learning behaviour. This did not indicate anything statistically significant at this stage.



*The bars represent 95 percent confidence intervals. If a bar crosses the zero line, the difference between groups is considered not sig.

2. Re-examining clusters showed more promise. Students in Cluster 2 can be regarded as more likely to progress than students in other clusters.

Students in Cluster 2 displayed a Very High score for Goal-setting, Help-seeking, Note-taking, a High score for Time and Elaboration, a Low-to-average score for Focus, and a low score for Digital. The Technological Self-Efficacy of Cluster 2 was High.

Clusters 1 and 2 had a higher proportion of students who progressed, but Cluster 2 had a lower proportion of students who do not progress. Students in Cluster 2 might be regarded as more likely to progress than students in other clusters.

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Key takeaways from the research

1. Student outcomes for each cluster from the 2017 data were analysed, and progression was selected as the cleanest metric.

2. Analysis revealed that some clusters displayed a tendency towards progression.

3. Clusters 1 and 2 had a higher proportion of students who progressed, but Cluster 2 had a lower proportion of students who do not progress. Students in Cluster 2 might be regarded as more likely to progress than students in other clusters.

4. There is sufficient evidence to suggest that the findings should be investigated through a longer-based study, considering factors are the influences of module design and presentation on students' Learning Behaviours.

5. The 2020 eSTEAM project Learning behaviours and successful outcomes in STEM students', is intended to share findings on these factors.