Using student record systems to support student progress

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This session

- The Open University’s experience
- What we are learning from it
- Next steps
- Considering the issues raised

Examples of data we collect…

- Student registration and academic record data
- Customer relationship management system data
- Tuition and assessment data
- Curriculum performance data
- Student performance data (cohorts and overall)
- Student satisfaction surveys
- Student withdrawal survey

How the OU has used data

- Most use of data previously has been to provide information on how the institution is working (e.g. the annual review process for each curriculum area)
- Useful for: effective approach to securing academic quality of content and consistent application of marking standards
- Less useful for: focus on student performance, long learning loops, not always resource to undertake deeper analysis

Analytics

Use of data analysis to identify performance improvement opportunities, with potential to increase student success

Student success = extent to which a student meets their study goals - retention, completion, attainment, progression (Educause 2012)

Potential gains

- Improvements in design of induction/preparation materials
- Improvements in the type/targeting of student support , following identification of those most at risk
- Changes in teaching materials and styles to reflect a more accurate understanding of learners' needs
- Examples in use focus on using data to trigger interventions, to modify learning or to understand social aspects of learning
- Key drivers for distance learning institutions – quality of student experience, student engagement and learning/learner support at scale

Purdue University – Signals

- Flagging system – identifies at-risk students
- Data used: demographic, admissions, grades, real-time behaviour
- Traffic light symbol indicates risk level to student with supporting information
- 79% high-risk students moved to lower risk categories
- 12% increase in help sought during project
- 26% more A/B grades
- Positive student, teaching and administrator reactions

http://www.itap.purdue.edu/studio//signals/

Arizona State University – Knewton

- Continuously adaptive online learning platform
- Data used – keystrokes, scores, speed, accuracy
- Analyses data, compares with similar students and modifies activities presented to students (e.g. adjusts practice questions)
- 56% reduction in withdrawal rate
- Instructors able to tailor teaching approaches
- Works well for scientific subjects

http://www.knewton.com/asu/

Open University

- 7 pilot projects 2009-2011(9,000 students)
- Majority of data already available – student record, VLE activity
- SAS software used to bring together data items from different sources into a ‘dashboard’ for staff use
- Data used to trigger interventions by academic and support staff
- Students informed of pilot, with option to opt out
- Tracking from module enrolment to completion or withdrawal
- Interventions based on a combination of student characteristics/ behaviours
- Encouraging gains in student engagement and retention
- Potential for further development at scale

Examples of characteristics

- Work status (employed, part-time, volunteer work etc)
- Age
- Country of study
- Gender
- Previous academic record with the institution
- Postcode
- Declared disability

Examples of behaviours

- First two way contact with module tutor
- Submission of an assignment
- Participation in a learning event (e.g. online tutorial)
- Booking an examination or residential school
- Frequency of contact with support team

Learning

- The importance of asking the right question – which activities are indicative of engagement, progress, success?
- Importance of updating student record (long student lifespans)
- Existing data likely to serve institutional interests rather than learner interests (data on previous educational qualifications)

For the future

- Strategy – need to provide transparency about why we do this
- Senior analytics sponsor and governing group
- Develop the people/culture needed to ensure that analytics outputs are translated into operational improvements
- Ensure that ethical considerations are properly handled – issues of privacy, power, responsibility

Issues to consider

- Consent
- Data privacy
- Data stewardship
- Information sharing (internal)
- Obligation to act
- Distribution of resources
- Transparency
- Robustness/reliability
- Involvement of faculty
- Avoidance of bias
- Sensitivity about certain profiles/types

Campbell et al (2007)

References and acknowledgements

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