

Report on the Use of Management Data to Support Academic Quality Assurance

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Dr Helen Thomas, Southampton Solent University
Anthony Turjansky, Edge Hill University
Lee Jones, Leeds Beckett University
David Williams, Edge Hill University

Contents

Executive summary	3
Section 1 Introduction	3
1.1 Background and context	3
1.2 Project aims and intended outcomes	5
1.3 Research methodology	6
Section 2 Research findings	8
2.1 Programme development and approval	8
2.2 Programme monitoring and review	10
2.3 Data systems and processes	14
2.4 Using data for quality enhancement	21
Conclusions and recommendations	23
Appendix: Survey questionnaire	25-29

Executive summary

Higher education providers' quality assurance processes have become increasingly data-reliant over time, and recent sector pronouncements concerning a shift to more 'outcomes-focused' external monitoring have only reinforced this. However, providers frequently describe the challenges associated with securing data that are meaningful, timely, reliable and integrated and which inspire user confidence at all levels of their organisations. Particular issues have been identified in relation to the appropriateness and consistency of data and the metrics (benchmarks) used to evaluate them, for example in relation to the performance of diverse and non-standard programmes. Providers describe the institutional systems used to harvest, process and disseminate data and the challenge of meeting the requirements of different users in respect of how much is provided, the level of detail and the format in which it is presented. Considerable work has been undertaken by some providers in creating 'dashboard' interfaces that enable end-users to run customised reports from a common data source. The indications are that such developments will become even more significant as providers have to evidence the robustness of their programme monitoring procedures as part of internal and external review.

Section 1 - Introduction

1.1 Background and context

1. The UK Quality Code for Higher Education offers clear guidance to higher education providers on sector and public expectations for the assurance of academic standards and quality.¹ Part C of the Code contains seven Indicators of Sound Practice which support the Expectation that "Higher education providers produce information for their intended audiences about the learning opportunities they offer that is fit for purpose, accessible and trustworthy". One of these (Indicator 7) states that "Higher education providers set out their framework for managing academic standards and quality assurance and enhancement and describe the data and information used to support its implementation".² The introduction to Part C further states that "assurance to the public is provided when QAA (Quality Assurance Agency) reports on its scrutiny of the way providers use internal management information, which is not normally in the public domain, to safeguard academic standards and to assure and enhance academic quality".³ Programme design, development and approval are addressed in chapter B1 of the Code which observes that providers "consider relevant qualitative and quantitative information [which] include market research, student performance measures and feedback, and other organisational information... Where possible, data are disaggregated by protected characteristic in order to identify any differential impact on particular groups of students".⁴ Part A of the Code contains the Expectation

¹ General introduction (p.13) in *UK Quality Code for Higher Education* (QAA) 2014.

² Part C: Information about higher education provision (p. 11) in *UK Quality Code for Higher Education* (QAA) 2012.

³ *Ibid*, p. 2.

⁴ Chapter B1: Programme design, development and approval, p. 10 in *UK Quality Code for Higher Education* (QAA) 2013.

that “Degree-awarding bodies maintain a definitive record of each programme and qualification that they approve (and of subsequent changes to it) which constitutes the reference point for delivery and assessment of the programme, its monitoring and review, and for the provision of records of study to students and alumni”.⁵ Meanwhile, chapter B8 on programme monitoring and review describes the use of “data on student progression and achievement, information made publicly available or reported to external bodies including professional, regulatory and statutory bodies, reports from external examiners, and other comparative data. Feedback from students, alumni, staff and employers also informs the processes. Where possible, data are disaggregated by protected characteristic”.⁶ Moreover, Part C acknowledges that data collected by higher education providers will vary according to their different management styles and cultures.⁷

2. Since this research commenced in early 2015, the sector has seen the publication of funding body proposals for a replacement quality assessment method in England, Wales and Northern Ireland. These foretold “a major shift in quality assessment and assurance activity...⁸ focused on data and information relating to the outcomes of students, rather than the processes operated by the department or institution”.⁹ Increased emphasis on internal quality assurance would require providers to “determine a rigorous and consistent basis on which routinely to analyse student outcomes data...¹⁰ [including] analysis of trend data on student academic output standards”.¹¹ Oversight of, and accountability for output standards would reside with the provider’s governing body which “will wish to consider the full profile of academic risk and may wish to use this to guide its data and information requirements”¹² as part of its annual reporting to the relevant funding body. For their part, funding bodies would use these data as a “basis on which to enter further specific dialogue with an individual provider where evidence suggested that this was necessary”.¹³ Whilst broadly supporting greater emphasis on ‘outcomes’ data, respondents to the consultation signalled the importance of “ensuring that such data, whether used by a provider to drive continuous improvement activities or by the funding bodies, was appropriately benchmarked so that the context for a provider and its students was properly reflected...¹⁴ Data definitions, standards and processes must be decided in partnership with the sector to ensure the data is robust and implications are well understood”.¹⁵

⁵ Part A: Setting and maintaining academic standards, p.23 in *UK Quality Code for Higher Education* (QAA) 2013.

⁶ Chapter B8: Programme monitoring and review, p. 8 in *UK Quality Code for Higher Education* (QAA) 2013.

⁷ Part C: Information about higher education provision, p. 12 in *UK Quality Code for Higher Education* (QAA) 2012.

⁸ “*Future approaches to quality assessment in England, Wales and northern Ireland: Consultation*” (HEFCE 2015/11), para 45.

⁹ *Ibid*, para 41 (b).

¹⁰ *Ibid*, para 36.

¹¹ *Ibid*, para 96.

¹² *Ibid*, para 62.

¹³ *Ibid*, para 51.

¹⁴ “*Future approaches to quality assessment in England, Wales and northern Ireland: Analysis of responses to consultation*” (HEFCE 2015/30), para 24.

¹⁵ *Ibid*, para 54.

3. A further development since this research was undertaken has been publication of the government's green paper on higher education regulation and in particular, the establishment of a Teaching Excellence Framework (TEF) in which teaching quality would be evaluated on the basis of "a common set of metrics derived from quality assured national datasets and benchmarked in a transparent and fair way across all providers".¹⁶ In responding to the consultation, QSN has commented that "we are not sure we agree entirely with the proposed metrics, which in some instances (e.g. graduate salary levels) appear to be remote proxies for measuring teaching excellence rather than actually measuring teaching excellence. It will take time to develop the metrics appropriately".¹⁷ In its response, Universities UK welcomes the "commitment to developing a proportionate assessment framework that makes the most of existing metrics and avoids adding to the burden on the sector"¹⁸ but adds that "it is essential that the reformed quality system and the TEF are fully integrated, and that as far as possible the metrics and content of reporting by institutions are aligned with the purposes of both systems and the internal process of institutions".¹⁹ Outcomes of the green paper consultation, and agreement on the operational aspects of the new quality assessment method remain outstanding at the time of this report's publication.

1.2 Project aims and intended outcomes

4. The research project was designed to identify the range and types of data, both qualitative and quantitative, used by higher education providers to support their quality assurance processes, and the internal systems and processes used to collect, analyse and evaluate data comprehensively and efficiently. Findings from the research would be used to produce a report on current sector practice. Specific quality assurance activities under consideration, and the data that inform them, comprise:
 - Programme development and approval: programme development and delivery costs balanced against projected intake numbers based on market research.
 - Programme monitoring and review:
 - Recruitment - number/percentage of applications against programme targets; offers, conversions and enrolments.
 - Retention - number/percentage of students registered on a programme who return to it the following academic year.
 - Progression - number/percentage of students being passed or progressed by an assessment board out of the total who obtain a result, i.e. students who have successfully completed the programme or have

¹⁶ 'Fulfilling our Potential: Teaching Excellence, Social Mobility and Student Choice' (Department of Business Innovation and Skills) November 2015, Chapter 3 para 3.

¹⁷ 'Fulfilling our potential: teaching excellence, social mobility and student choice – Quality Strategy Network Response', p. 6.

¹⁸ 'Fulfilling our potential: teaching excellence, social mobility and student choice – Universities UK Response', p. 9.

¹⁹ Ibid, p. 12.

qualified to proceed to its next stage. Data include first-time module pass rates and final degree classifications.

- Student satisfaction – external surveys, e.g. National Student Survey (NSS) and Postgraduate Research Experience Survey (PRES); internal student surveys.
 - Graduate employability – Destination of Leavers from Higher Education (DLHE) survey.
5. Data may be disaggregated by protected characteristics²⁰ such as age, gender, ethnicity and declared disability, or by other measures such as age and entry qualifications and recruitment from low participation neighbourhoods. Analysis and evaluation may be limited to a data ‘snapshot’ such as for annual monitoring, or longitudinal trend analysis, for example in support of periodic programme review. The research was to be undertaken with QSN member institutions, identifying both common challenges and specific good practice, and the report would be shared with other institutions and organisations to promote sector-level quality assurance and enhancement.

1.3 Research methodology

6. The research phase of the project was undertaken between February and November 2015 and comprised:
- a) Survey questionnaire.²¹
 - b) Telephone interviews.
 - c) Site visits.
 - d) Presentations and workshops.
7. The survey questionnaire was sent to lead representatives of QSN member institutions with a request that it be passed to the relevant staff for completion. Questions aimed to identify the types and level of data used to support specific quality assurance activities and how they were collected, analysed and evaluated. Approximately one third of QSN member institutions (31) completed the questionnaire survey. All respondents were invited to participate in follow-up telephone interviews and/or site visits. 20 member institutions participated in the telephone interviews, which were recorded for transcription and elicited more detail about the types of data used and systems for generating them, with particular focus on:
- Areas in which data availability could be improved;
 - Characteristics of data management systems as viewed from the user perspective; and
 - How data are used to support quality enhancement (in addition to quality assurance).

²⁰ As defined in the Equality Act 2010 <http://www.legislation.gov.uk/ukpga/2010/15/part/2/chapter/1>.

²¹ See [Appendix](#).

8. Four observational site visits were undertaken between February and May 2015 with providers being selected on the basis of the following criteria:
 - The provider’s willingness and availability to host a visit.
 - Evidence (obtained from the questionnaire and telephone interview) of effective use of data for quality assurance purposes.
 - Evidence of innovative and effective practice in relation to data collection and evaluation with a particular focus on IT systems and their development.

9. Questionnaires, telephone interviews and site visits were undertaken by a postgraduate research assistant²² working under the direction of a Project Steering Group²³ convened from members of the QSN Executive. Steering Group members delivered presentations and workshops at a number of national and regional conferences²⁴ where delegates were invited to consider and respond to the following questions:
 - I. As higher education providers, which data do we use for programme development, monitoring and review?
 - II. How are the data sourced, and what systems are used? How are data verified, processed, published and accessed?
 - III. How are data collection and presentation evaluated and improved upon in your institutions? How are new data requirements identified and responded to?
 - IV. How are data used to support quality enhancement as well as quality assurance?

10. Feedback from workshops and conferences has been incorporated within this report.

²² David Williams, postgraduate research assistant, Edge Hill University.

²³ Lee Jones, Leeds Beckett University; Dr Helen Thomas, Southampton Solent University; and Anthony Turjansky, Edge Hill University.

²⁴ QSN Summer Symposium, Cardiff University, 2nd June 2015; Quality Conference: *‘Delivering Excellence in Higher Education’*, Leeds Beckett University, 2nd July 2015; QSN Annual Conference: *‘Quality Management – Future Directions’*, Aston Business School, 1st-2nd October 2015; and Northern Universities Consortium (NUCCAT) Annual Conference: *‘Student Achievement in the Digital Age’*, Manchester Conference Centre, 19th November 2015.

Section 2 – Research findings

2.1 Programme development and approval

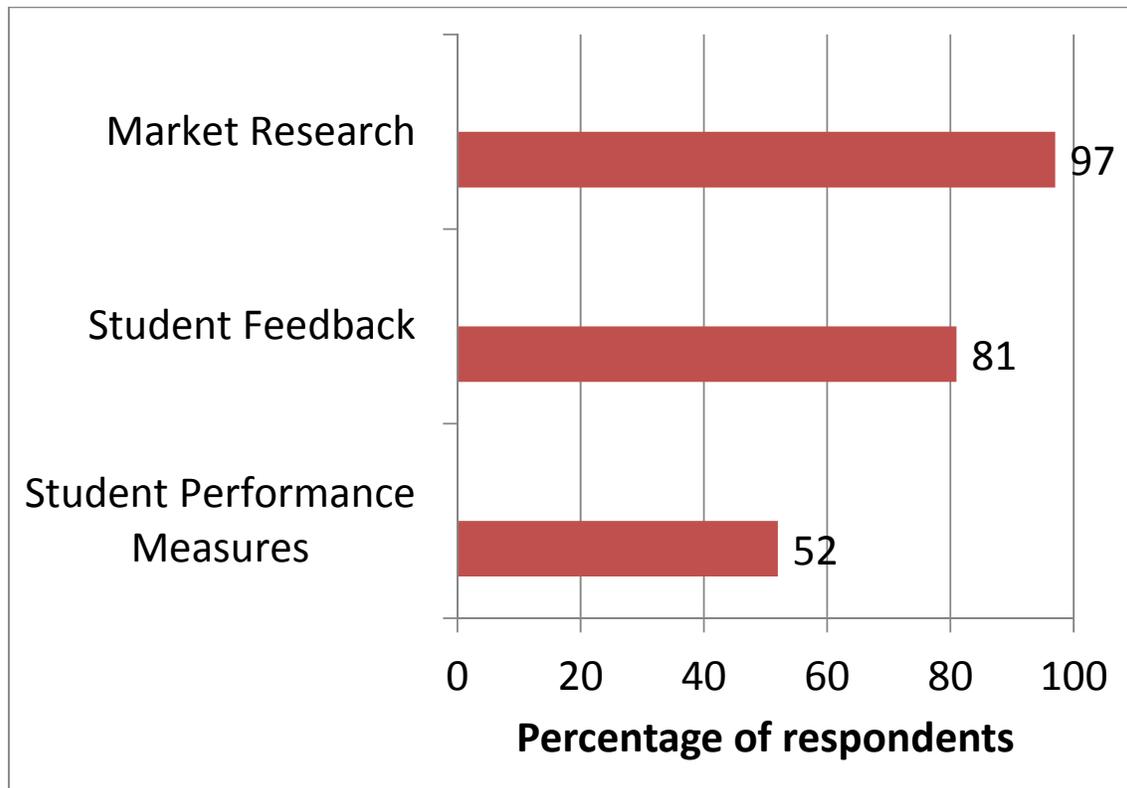
Summary of key findings

- **Higher education providers use internal and external data when designing and developing new programmes. These comprise market (competitor) scanning, analysis of UCAS data and feedback from current students.**
- **Accurate forecasting of student intake numbers is challenging and staff require support to produce effective business cases.**

11. Higher education providers described a planning stage for curriculum design and development that consisted of formal (executive and/or committee) consideration of initial programme proposals, often in the context of an institution-level academic development plan that was aligned with the organisation's mission and overarching strategic plan. Proposals were usually accompanied by business cases that drew upon UCAS and HESA data to forecast projected student numbers and demonstrate how start-up costs would be recovered within a defined period. However, some respondents indicated that such data did not always accurately reflect the market and may not acknowledge the impact on demand of factors such as institutional reputation and geographical location. Providers indicated that forecasting student demand could be made more reliable and that staff required more support than was generally provided to produce realistic business cases. Student performance data from cognate programmes within the institution, whilst useful to an extent, were of limited value when developing new programme proposals.
12. Providers made use of competitors' prospectuses, programme specifications and Key Information Sets (Unistats) as part of their research and to benchmark curriculum, teaching and assessment including balance of scheduled learning activities with independent study and opportunities for work-based learning (placements). However, achieving meaningful comparisons with other providers' programmes could be difficult due to variations in award titles and course content, structures and delivery modes.
13. Most providers solicited feedback from tutors and students when validating or re-validating programmes although engagement with graduate alumni appeared to be more variable. One provider described strengthening the collection of market intelligence when planning new courses while two others were developing an employers' database for use in programme development and approval. Employer consultation was managed informally or through organised events such as 'employers' fora' and other networking activities. External examiners and external advisors provided academic subject input to curriculum design. Some providers

had engaged professional bodies in course design with a view to securing accreditations that enhanced programmes' credibility and recruitment potential.

Question: 'When gathering information to help inform programme design and development, which of these sources of data are utilised within the institution?'



2.2 Programme Monitoring and Review

Summary of key findings

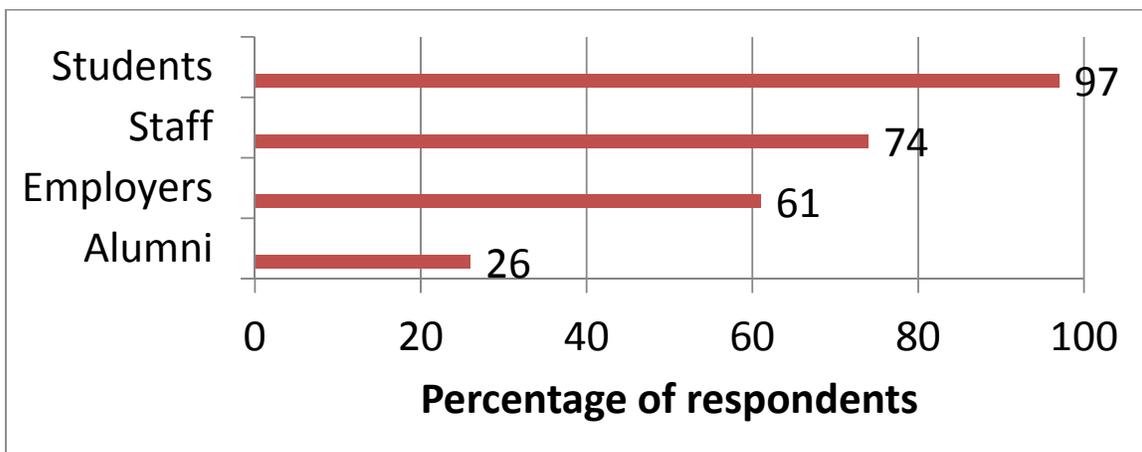
- **Higher education providers gather a wide range of qualitative and quantitative data when monitoring and reviewing their programmes. Qualitative data include feedback from students, external examiners and staff. Quantitative data cover student recruitment, attainment, retention, progression and graduate destinations.**
- **Data may be disaggregated by age, gender, ethnicity and disability, and by first-time HE participation and entry qualifications.**
- **Issues may be encountered when using identical metrics (benchmarks) to evaluate the performance of diverse types of provision.**

14. HE providers have in place surveillance mechanisms that enable early identification of programme-level issues so they can be resolved speedily and effectively. Most providers have an annual programme monitoring process that identifies any issues and trends related to student performance, achievement, applications and enquiries, student feedback and student satisfaction. Where annual monitoring operates through programme committees, staff and students are usually in attendance to provide feedback. Providers also conduct cyclical periodic reviews, normally once every five or six years, which provide longitudinal evaluation of programme performance across the preceding period. Most providers generated improvement plans as an outcome of monitoring and review, either for immediate completion or for longer-term action. Monitoring and review also provided opportunities to identify, evaluate and disseminate good practice within and across departments, schools and faculties via committees and staff training activities (see 2.4). Evidence from monitoring and review supported the production of separate reports for professional bodies and self-evaluation documents for external review, for example by QAA and Ofsted.
15. Most providers specified the collection of two main types of data when monitoring and reviewing programmes: qualitative feedback data, and quantitative data on student performance. Whilst annual monitoring naturally tended to focus on a single year's worth of data, periodic review provided opportunities to analyse trends over a five or six year cycle.
16. Providers reported using both internal and external feedback to monitor and review their programmes. Internal feedback was mainly from students, staff and employers. Student feedback was collected at the end of modules, and increasingly through mid-module evaluations which enabled programme teams to respond to feedback while the modules were still in delivery. Feedback was also collected through student participation in programme committees and staff-student focus groups. Internal student satisfaction surveys were often conducted annually and at programme level. The majority of providers participated in the

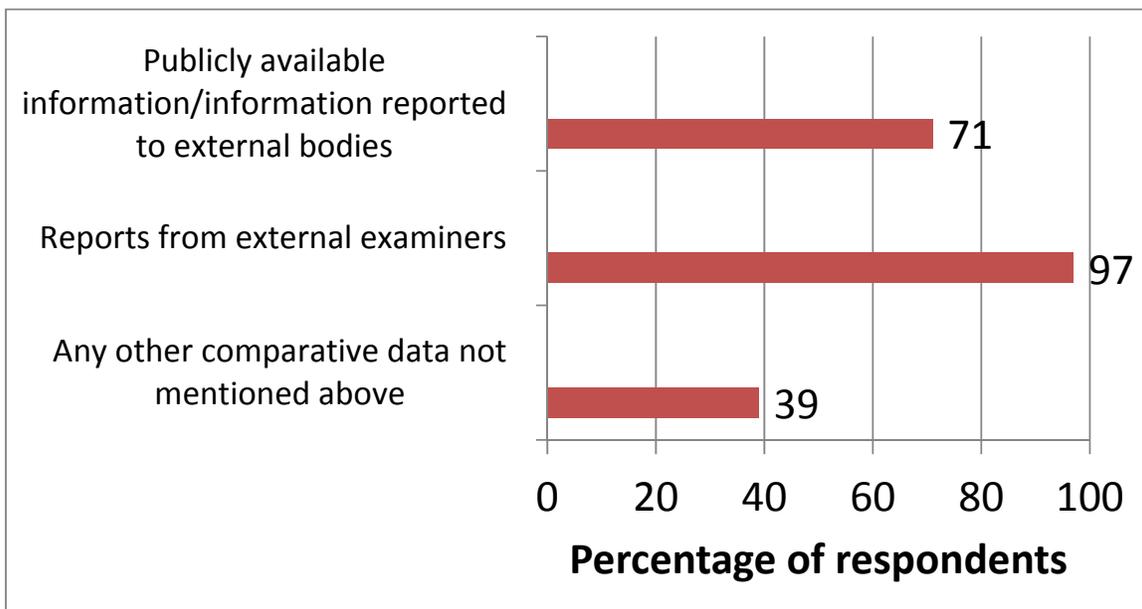
National Student Survey (NSS), and some engaged with other external surveys such as the Postgraduate Research Experience Survey and International Student Barometer.

17. Feedback from external sources was mostly via external examiner reports and the reports of professional accrediting bodies. External examiner reports were accompanied by programme-level responses which informed the production of thematic summaries for consideration at executive level and via institution-level committees. A minority of providers utilised feedback from alumni as part of their periodic review processes.

Question: ‘When gathering information to monitor and review programmes, which of these sources of feedback data are utilised?’

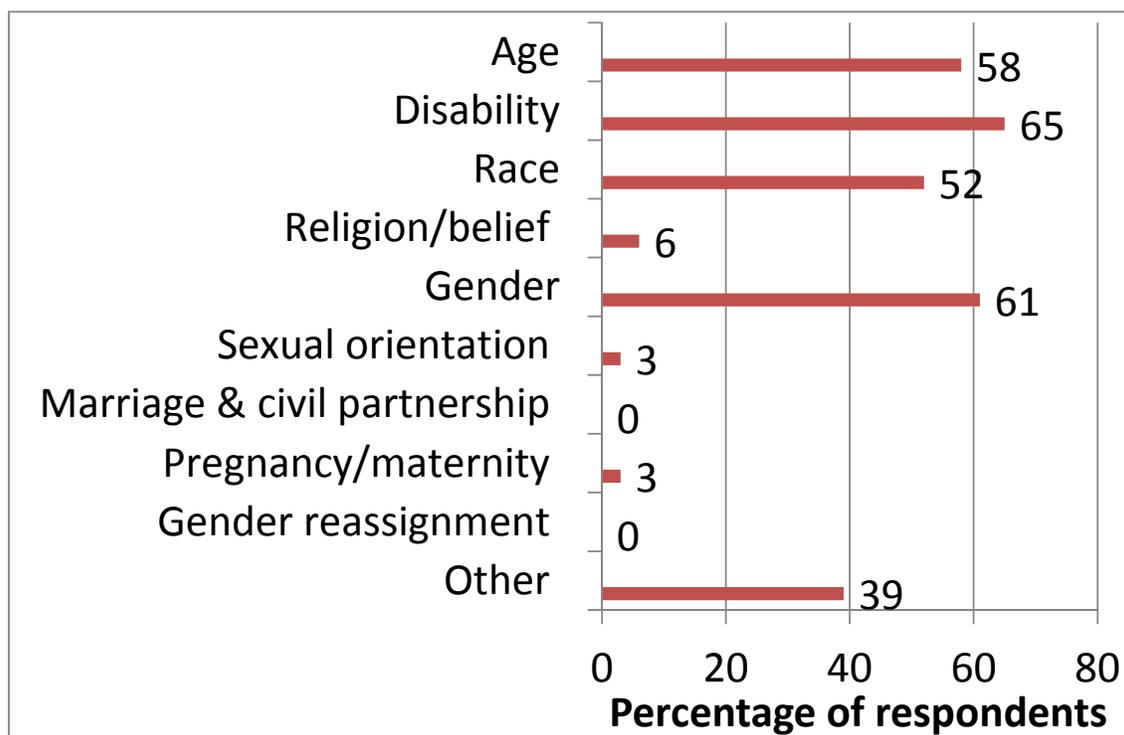


Question: ‘When gathering information to monitor and review programmes, what other sources of data are used?’



18. Programme performance data covered student recruitment, retention, attainment and progression, with the final two having priority. While recruitment, retention and progression were evaluated at programme level, attainment was also measured at module level with a particular focus on first time pass rates and distribution of grades (standard deviation). Recruitment data comprised numbers of applications, offers, acceptances and enrolments and were evaluated in the context of programme intake targets. Only one provider made specific mention of disaggregating recruitment data by protected characteristics such as ethnicity (including international students), gender and disability (where declared) which supported their evaluation of recruitment and support strategies. Disaggregation by geographical location and socio-economic background, e.g. number of students from low participation areas, may inform the monitoring of widening participation agendas.

Question: ‘From the following set of protected characteristics, please indicate where attempts are made to disaggregate programme performance data in order to identify any differential impact on particular groups of students.’



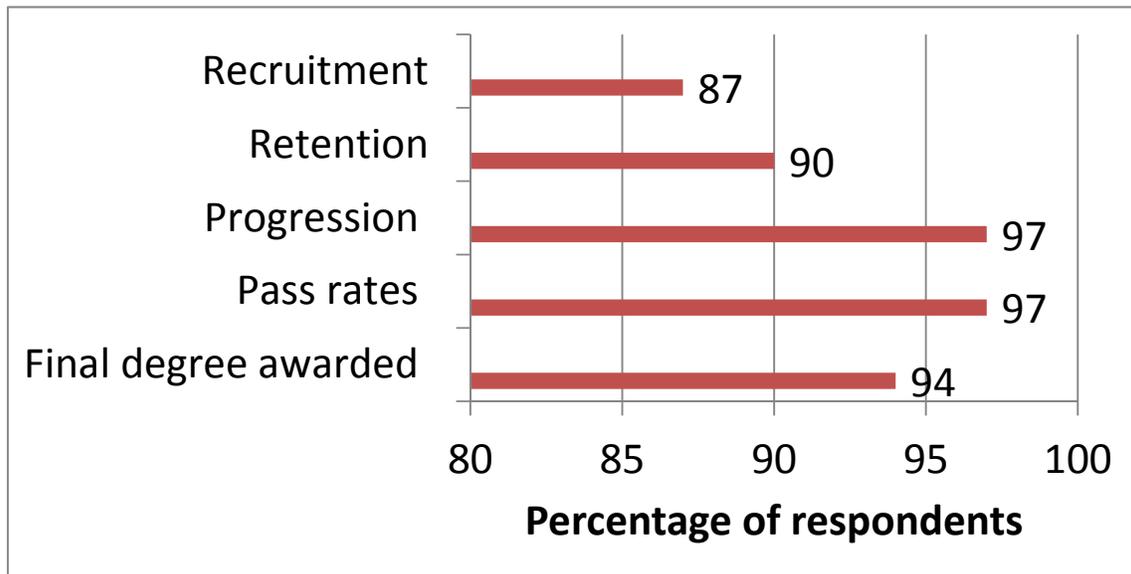
19. Providers compared data for student attainment, retention and progression across courses, departments/schools/faculties and years against institutional benchmarks (Key Performance Indicators). Cohort data were disaggregated by protected characteristic, particularly in relation to age, gender and disability (where declared). Some providers compared the performance of students entering with A level, BTEC or Access qualifications which helped inform their strategies for academic support.

Case Study: University of the Arts London

The University of the Arts London introduced a Quality Indicators Working Model for piloting during the 2015 annual monitoring cycle. Key Performance Indicators (KPIs) were developed for student recruitment, attainment and progression, graduate destinations and student satisfaction. A traffic light system of green, amber and red was used to denote over- or under-performance against the KPIs, with a significant number of amber/red indicators triggering closer scrutiny; for example, courses exhibiting more than two red indicators or four red or amber indicators would be subject to monitoring at course level, rather than the standard programme (subject) level. It was anticipated that around a fifth of courses each year may undergo this more detailed form of monitoring which should enable areas for development to be identified and managed more effectively.

- 20. Providers used data from the national Destination of Leavers from Higher Education (DLHE) survey to evaluate how effectively students were prepared for graduate employment. At programme level, DLHE data informed discussions about development of transferable skills and support for personal and professional development. Some providers collected local data on alumni destinations to inform programme development and approval processes (see 2.1).

Question: ‘When gathering information to monitor and review programmes, which of these sources of programme performance data are utilised?’



- 21. Some providers observed that metrics (benchmarks) that were tailored to the monitoring and review of three year full-time undergraduate programmes did not lend themselves well to evaluating programmes with non-standard durations and delivery patterns and/or multiple annual intakes and may result in misleading judgements about progression.

Case Study: Edge Hill University

Edge Hill University convened a working group comprising data specialists, quality officers and faculty academic managers to consider the challenges associated with monitoring the performance of non-standard provision. This stemmed from a sense of frustration within one faculty that misleading comparisons were being drawn between progression and completion rates for three year full-time programmes and those for flexible part-time CPD provision where students enrolled on awards but studied modules at their own pace, triggering false alarms about completion rates. Adjustments to benchmarks, and enhanced guidance to faculties and monitoring panels (committees) were implemented in time for the start of the 2015 annual monitoring cycle.

2.3 Data systems and processes

Summary of key findings

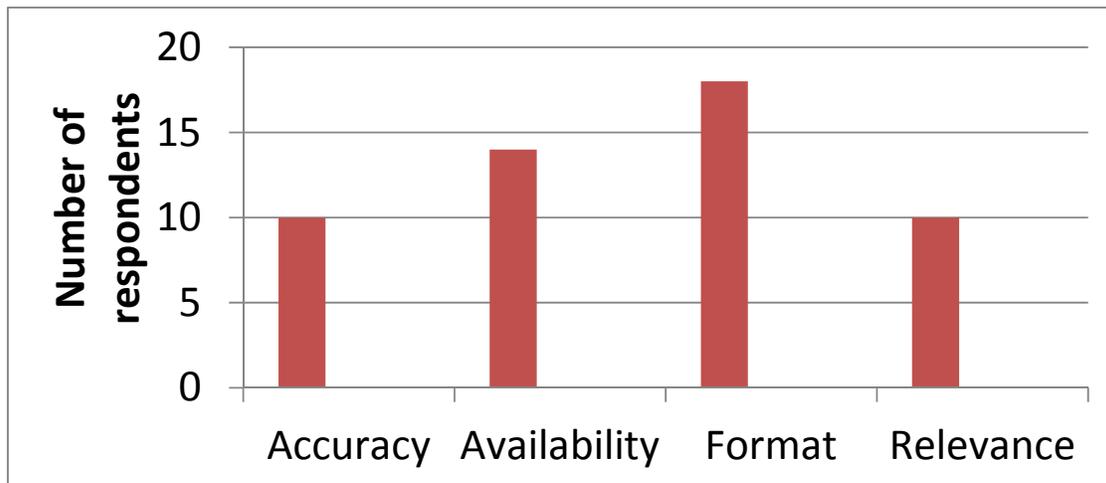
- **Providers make available centrally-held data for monitoring and review. Programme performance data are harvested from student records systems and other related systems using off-the-shelf software or solutions developed in-house. However, most providers describe a lack of integration between different institutional systems.**
- **Users identify detail, format and accessibility as important factors when evaluating data quality. Dashboards enable end-users to filter data to their own requirements.**

22. Many providers acknowledged the need to enhance the collection and analysis of data for programme monitoring and review. Most described a team that collected and assembled data from various systems and processes and disseminated them to academic departments, schools or faculties. While central teams including quality units may conduct their own thematic analyses to inform discussions at executive and deliberative committees, programme-level analysis took place mainly within host departments, schools or faculties.
23. Some providers expressed concern about the quantity of information collected for monitoring and review purposes. For example, one explained that for admissions a wide range of data was collected but there was continuous debate about which were the most informative and useful. It was also noted that the value of particular data would often change over time to reflect current sectoral or institutional issues or agendas.
24. Providers observed that while there was often a wide range of useful data for monitoring and review, staff time and resources to analyse and evaluate them was

limited. Another challenge was eliciting responses to internal student surveys where response rates as low as 20% did not provide meaningful samples to facilitate institution-wide comparisons. Some providers identified specific issues with collecting data from external sources such as collaborative partner organisations which could prove difficult and time-consuming.

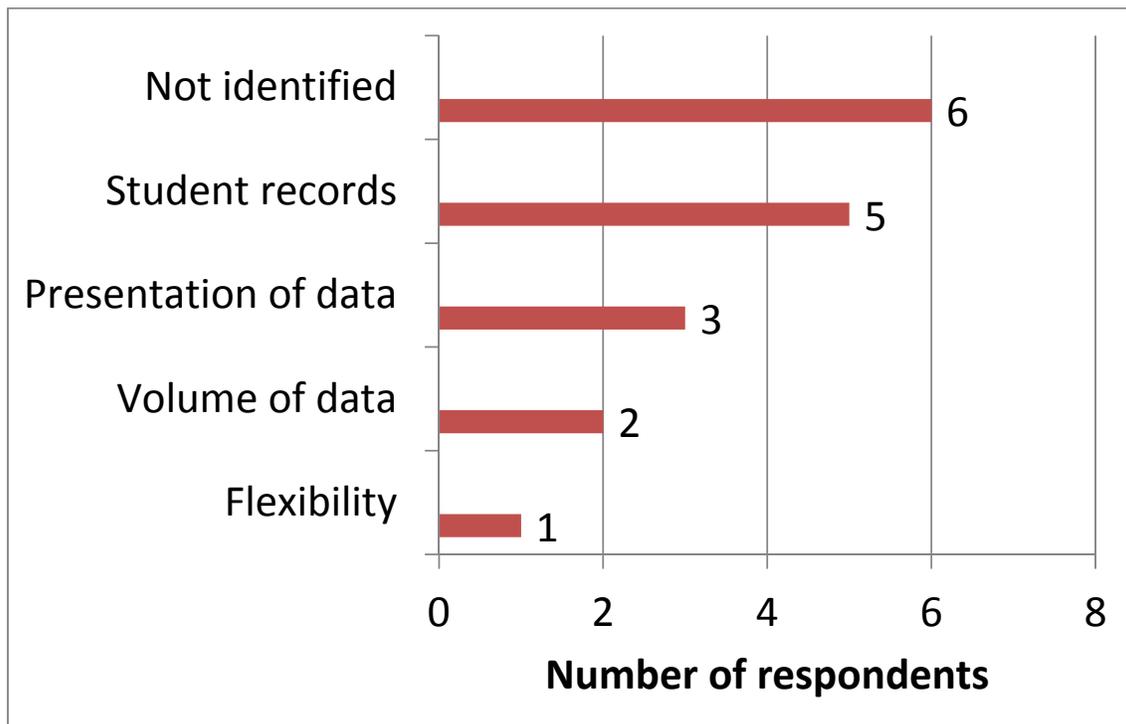
25. The principal concerns raised by providers related to data integrity and its impact on user confidence. One provider described recurring problems with the accuracy of data on its student records system. Others cited examples of centrally-generated datasets lagging behind locally-held data which, while potentially more up-to-date and reflective of in-year changes to retention and progression, nevertheless lacked the authority of centrally-provided data.
26. A further issue concerned the volume of detail needed by different data users and the flexibility (or otherwise) of institutional systems to generate different levels of data - for example, heads of department and programme leaders may require a greater range, depth and granularity of data for programme monitoring and review than do senior managers for whom more 'top-level' data may be appropriate. One provider explained that while there was a wealth of data available, it was not well-aligned with the reporting requirements for quality monitoring and staff had to deploy various algorithms to produce the specific datasets that were required. Others commented on the practical implications for small teams of staff in handling high-volume data. Data may only be made available in single format, e.g. spreadsheets, whereas other formats may be more accessible (and potentially more illuminating) and better attuned to individual user needs, from 'easy read' to in-depth analysis. While one provider commented 'There are problems involved in the way that data is extracted and presented – it is not done so in a particularly engaging format for those who need to use it', another was exploring the use of graphs and pie charts to stimulate engagement.
27. Another key issue for providers was the timeliness of data and how it synchronised with their monitoring cycle, in particular the deadlines for submission of annual monitoring reports and their consideration by committees. Specific issues were noted in relation to outcomes from summer re-assessment activity which were not always available to inform commentaries on programme retention and progression. While some of these concerns were addressed through re-scheduling, this was not always feasible and made it difficult to prevent authors from using locally-held (and therefore unauthorised) data in their monitoring reports.

Areas where data could be improved:

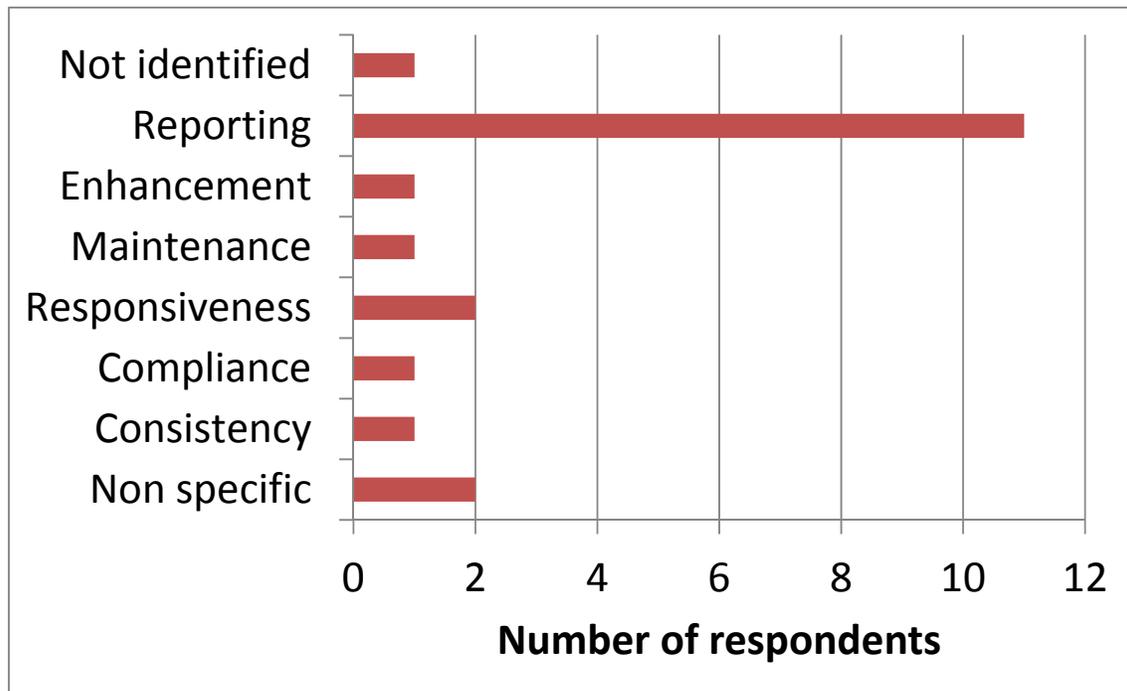


28. Some providers commented on the skills and expertise required to for effective data analysis, both by data specialists and by other staff who needed to engage with and interpret them. Other challenges included student records systems being cluttered with out-of-date data module and programme records where data cleansing was not systematic. Some systems within the same institution recorded student activity by year of study, and others by FHEQ level e.g. level 4, which was manageable in relation to three year full-time programmes but raised complications when reporting part-time and non-standard provision.

Data systems - 'Positives':

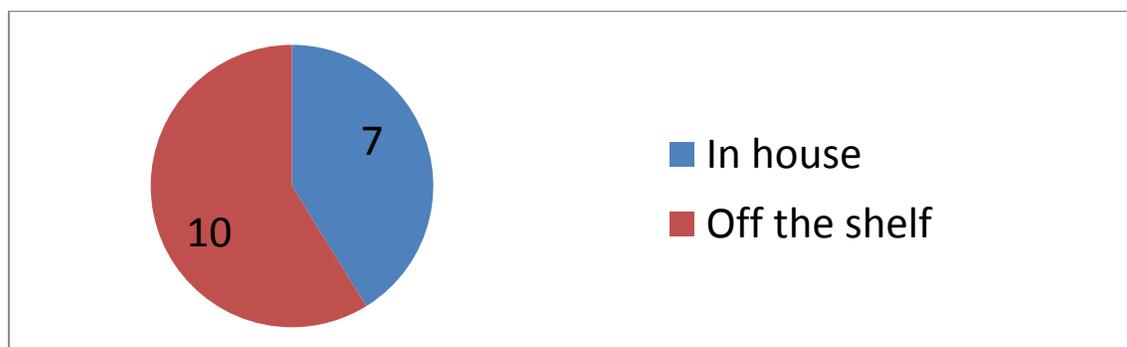


Data systems - 'Negatives':



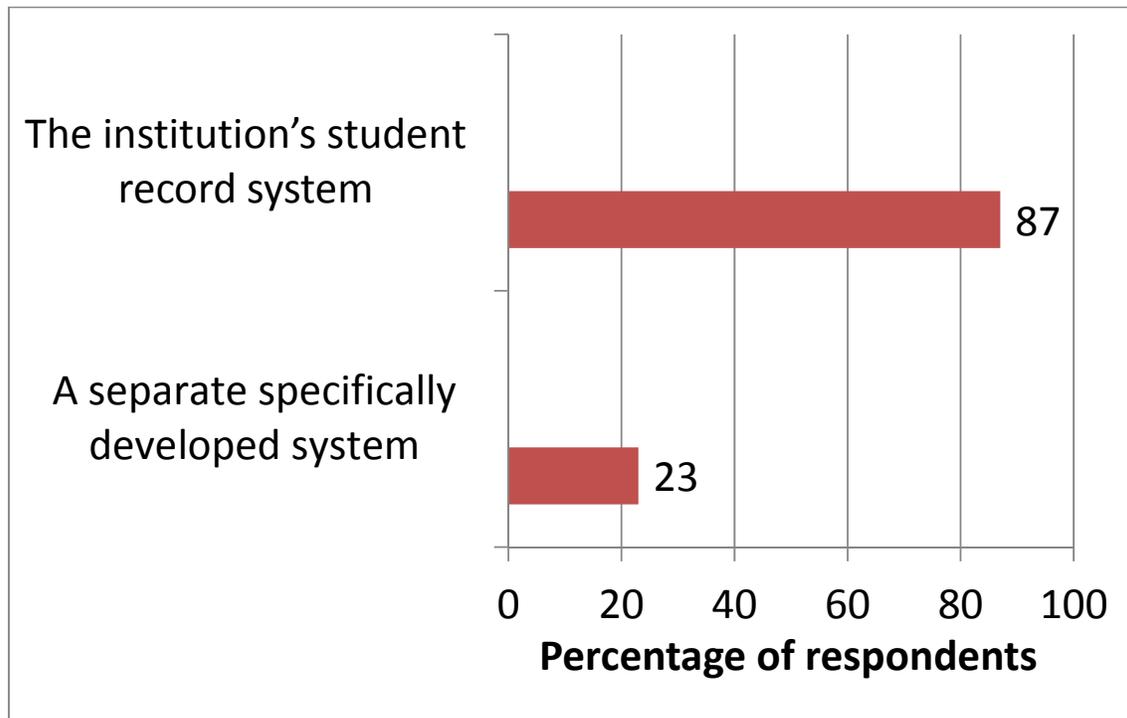
29. Providers described their systems for harvesting and publishing programme performance data. The majority utilised off-the-shelf student records systems (SRS) such as SITS²⁵ and Banner²⁶, with one provider describing the ability to run reports on 'everything from applications, conversions, enrolments, withdrawals, transfers, retention, progression and achievement'. Some providers had developed their own in-house SRS's, one describing a system that collected course-level data and generated analytical reports. However, two providers said that their in-house systems used outdated software and were difficult to modify in response to changed systems requirements. Bespoke systems could also be difficult to maintain when the original designers had exited the institution and one provider was currently looking to replace theirs with an off-the-shelf solution.

Student Records Systems (SRS) in use by institutions:



²⁵ 'Strategic Information Technology Services', <http://www.tribalgroupp.com/technology/sitsvision/Pages/default.aspx>.
²⁶ <http://www.ellucian.com/emea-ap/Software/Banner-Student/>.

Question: 'What systems are used to collect programme performance data?'



30. Providers discussed the integration of their SRS's with other institutional systems such as virtual learning environments and timetabling software. Some providers identified a need for different systems to communicate with each other more effectively although this was less of a concern in smaller and less complex organisations. For those who sought to integrate their systems more closely, compatibility (especially between off the shelf and in-house systems) and software licensing conditions were potential obstacles although 'add-ons' provided a possible solution. Some providers had purchased standalone tools that interfaced with their SRS and other systems via a data dashboard²⁷ (Oracle Discoverer,²⁸ SAP Business Objects,²⁹ Tableau,³⁰ and QlikView³¹) and several others were exploring the adoption of dashboards for monitoring and reporting purposes.

²⁷ A data visualization tool that displays the real-time status of metrics and key performance indicators (KPIs) for a business organisation.

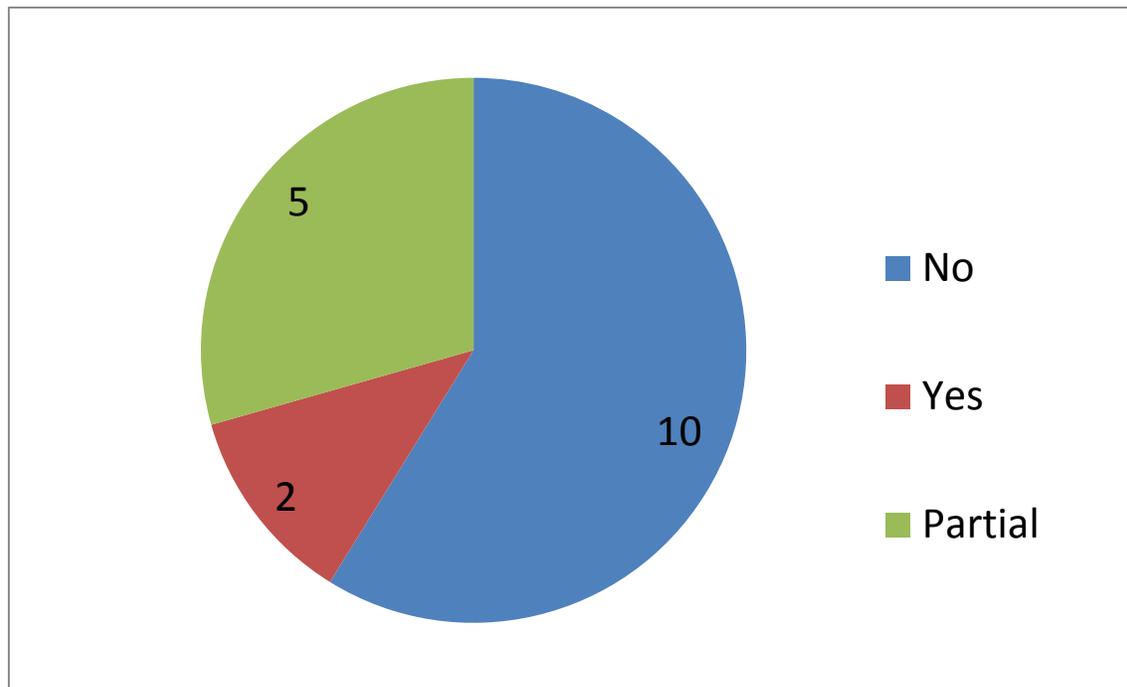
²⁸ <http://www.oracle.com/technetwork/developer-tools/discoverer/overview/index.html>.

²⁹ <http://go.sap.com/uk/solution/platform-technology/business-intelligence.html>.

³⁰ <http://www.tableau.com/>.

³¹ <http://www.qlik.com/products/qlikview>.

Question: 'Are institutional data systems integrated?'



31. Providers described how their data systems were expanded or upgraded to respond to internal and external drivers. Improvements and additions were usually initiated by users working through their departments, schools or faculties to raise their requirements with central IT and data services. One provider described changes made in response to demands for academic staff to be able to access 'live' applications data; another referred to improvements in the storage of assessment information that had been driven by student feedback. Some providers had adjusted their systems to respond to changed reporting requirements of external bodies such as funding councils and the Higher Education Statistics Agency (HESA).

Case Study: De Montfort University

De Montfort University has adopted the 'Tableau' data visualisation package which harvests data from multiple sources to create an overlay of interactive dashboard interfaces. Users generate customised reports by applying filters within pre-specified reports to meet their particular needs. Data can be presented in multiple formats including charts and graphs and users select the type and level of data that best suits their needs, from top-level overviews to more detailed reporting. The system enables comparisons between modules, programmes and cohorts and is capable of supporting longitudinal trend analysis as more data are added. Regular updating and access to 'real-time' data are able to support continuous monitoring as distinct from more traditional fixed-point monitoring based on annual data snapshots. The University's QAA Higher Education Review report of April 2015³² identified as good practice the institution's 'effective use of data and management information to identify, monitor and evaluate enhancement activities' and noted that 'staff spoke enthusiastically about the value of reports generated through the new software in facilitating their work'.

Case Study: University of Portsmouth

The University of Portsmouth's Annual Standards and Quality Evaluative Reports (ASQER) require academic departments to reflect on key performance indicators on student recruitment, retention, attainment, progression and graduate employment as well as qualitative feedback from staff, students, external examiners and other stakeholders such as professional bodies. In a bid to improve data accessibility and consistency, the University has introduced a system of Business Intelligence (BI) dashboards that are refreshed at the start of each academic year and enable trend analysis over a three year period against various department, faculty and institutional benchmarks. Departments and programmes access each other's data for comparative purposes. The University's QAA Higher Education Review of March 2015³³ noted that "planning dashboards provide robust management information to improve University monitoring of key performance indicators... enhanced ASQER data reports had improved the quantitative data provided by the University to support consideration of student performance and achievement". Staff have welcomed BI because it allows them to spend more time analysing data than collecting them, and planned further developments include linking the system to external data sources and extending its use to collaborative partners.

32. Providers made reference to institution-level systems reviews and the creation of usergroups comprising staff from academic areas and support services such as

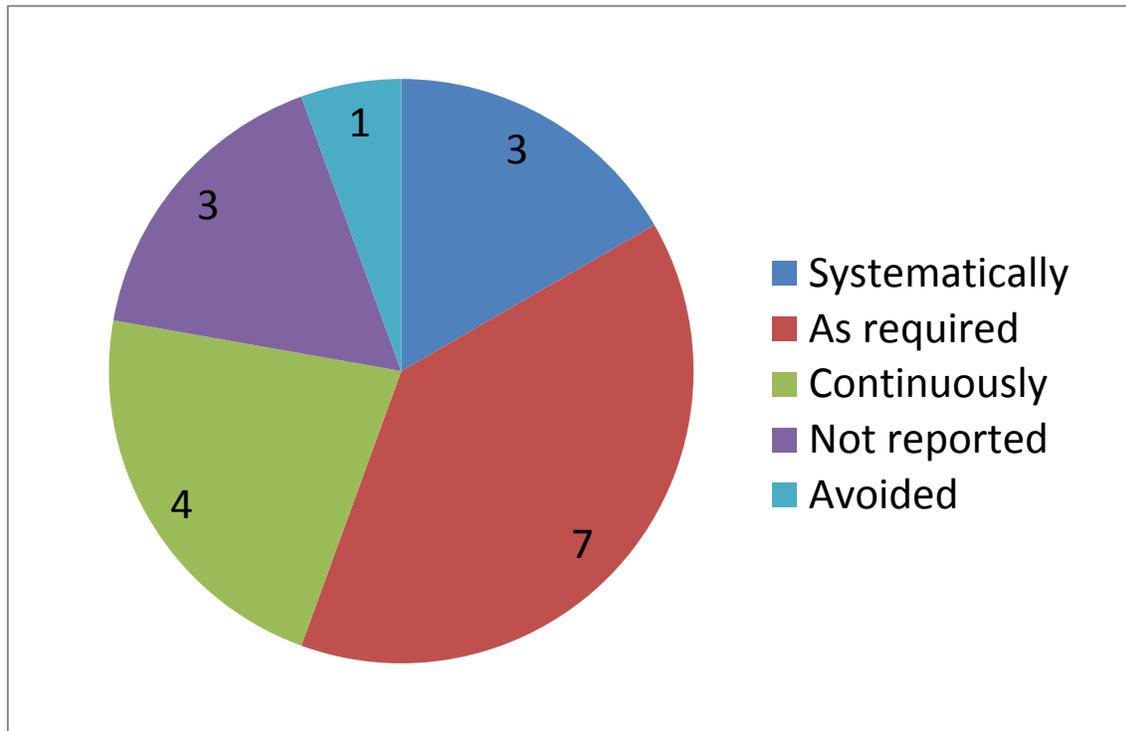
³² <http://www.qaa.ac.uk/en/ReviewsAndReports/Documents/De%20Montfort%20University/De-Montfort-University-HER-15.pdf>.

³³

<http://www.qaa.ac.uk/en/ReviewsAndReports/Documents/University%20of%20Portsmouth/University-of-Portsmouth-HER-15.pdf>.

registries and planning units. Some providers described a systematic process of user testing and one had surveyed over 200 users when implementing a new programme monitoring system. However, the majority indicated no systematic approach to identifying improvements to data or the systems that generated them, relying instead on ad hoc feedback or periodic evaluation of their institutions' quality processes.

Question: 'When are data systems reviewed?'



2.4 Using data for quality enhancement

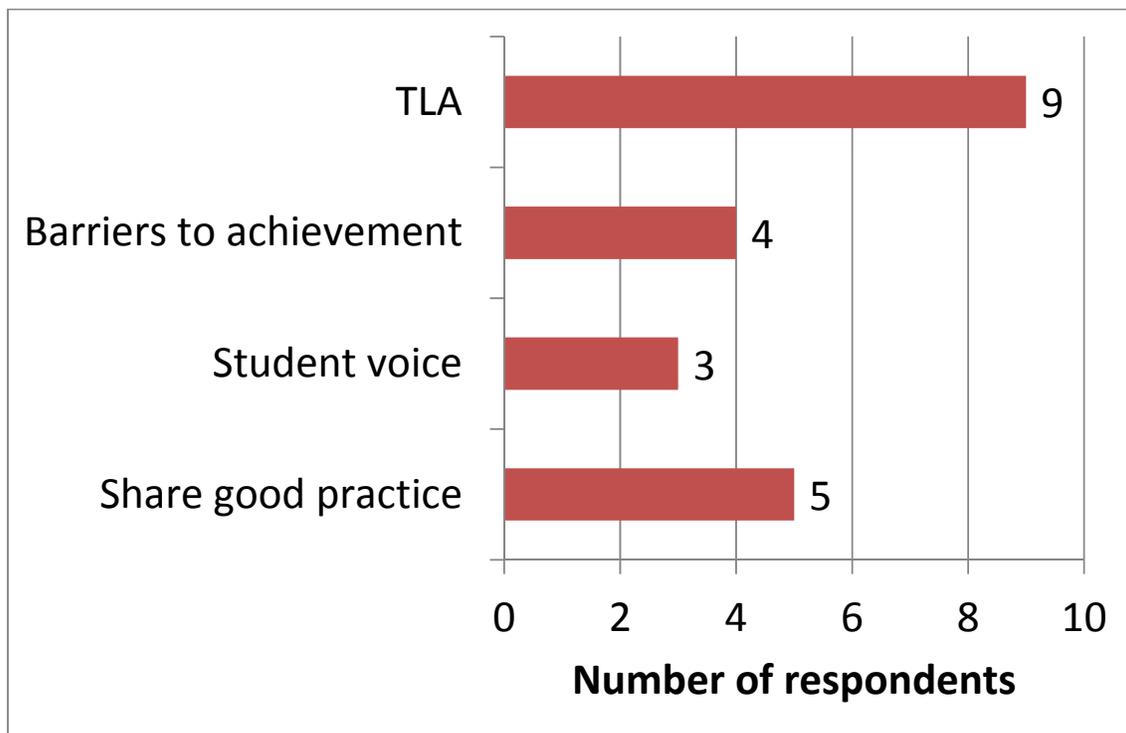
Summary of key findings

- Programme monitoring and review processes enable the identification of effective practice as well as areas for development.
- Quantitative performance data are used to identify areas for improvement; qualitative data including student feedback and external reports provide independent verification of good practice.
- Overviews of monitoring and review reports facilitate dissemination via deliberative committees.

33. Providers described their annual monitoring and periodic review processes and how they were used to identify good practice as well as areas for development. While quantitative programme performance data played a role in highlighting

potential for improvement, providers emphasised the importance of other evidence to put these data into context - for example: "The performance data in isolation...doesn't give the answers, but just alerts you to patterns/trends/behaviours that should be investigated". Providers described using qualitative data comprising feedback from staff and students (e.g. module evaluation questionnaires, programme committee minutes and survey comments), external examiner reports and, where available, feedback from employers and professional bodies. Providers indicated that teaching and assessment were the most likely beneficiaries of dissemination of good practice.

'Enhancement impact' of evidence-based monitoring:



34. While programme monitoring and review have traditionally been associated with quality assurance, providers emphasised their potential to contribute to quality enhancement. Most providers produced detailed overviews of the outcomes from programme monitoring and review which were considered through deliberative committees as part of institution-level oversight of academic standards and quality, with areas for improvement captured in action plans and good practice disseminated via faculties and schools. Other vehicles for dissemination included staff development activities and dedicated websites, wikis and good practice repositories. One provider was developing a searchable database of good practice citations from validation, monitoring and review and external examiners with links to reports and additional information. Providers who worked with collaborative partner organisations described opportunities for sharing good practice through liaison tutors and partnership networks.

Conclusions and recommendations

35. This QSN research has sought to identify common themes and issues from providers' use of data for quality assurance. Evidence shows that all providers are concerned to improve the quality of centrally-provided data and most have approached this on two fronts; firstly, by reviewing the appropriateness of their data and the benchmarks used to evaluate them; and secondly, by enhancing their systems for data collection and processing to secure data integrity and build user confidence. Feedback from the survey, and from recent QAA Higher Education Review reports reveals growing adoption of 'dashboards' that enable end-users to filter data and run reports in the format and detail that best suits their needs. Key findings were:

- I. Evidence for programme development and approval comprises market (competitor) scanning including analysis of UCAS data and feedback from students. However, accurate forecasting of intake numbers can be challenging and staff require support to produce effective business cases.
- II. Among the qualitative data for programme monitoring and review, providers prioritise feedback from students and external examiners. Among the quantitative data for monitoring and review, attainment and progression are prioritised.
- III. Where data are disaggregated by protected characteristics, disability and age are the principal foci for analysis, followed by gender and ethnicity. More infrequently, data are disaggregated by first-time HE participation and entry qualifications.
- IV. Providers harvest programme performance data from student records systems and other institutional systems using off-the-shelf software or solutions developed in-house. However, most providers describe a lack of integration between different systems. End-users identify detail, format and accessibility as the most significant factors when evaluating data quality.

36. Sector feedback on proposals for a new quality assessment framework and Teaching Excellence Framework highlights the significance of comparing achievement on completion with entry profiles in order to demonstrate students' 'learning gain'.³⁴ In the meantime, the Office for Fair Access (OFFA) is likely to focus more explicitly on disadvantaged white men, black and minority ethnic (BME) students and students with learning difficulties when reviewing Access Agreements to support the government's goal of doubling the proportion of young people from disadvantaged backgrounds entering HE by 2020 (compared with 2009) and increasing the number of the number of BME students by 20%.³⁵ Enhanced data capture and analysis as part of internal monitoring and review processes should support providers in evaluating their performance against both of these agendas.

³⁴ Defined by the Higher Education Funding Council for England as 'The improvement in knowledge, skills, work-readiness and personal development made by students during their time spent in higher education' <http://www.hefce.ac.uk/news/newsarchive/2015/Name.105306.en.html> (accessed 15th February 2016).

³⁵ 'Fulfilling our Potential: Teaching Excellence, Social Mobility and Student Choice' (Department of Business Innovation and Skills) November 2015, Chapter 4 para 3.

37. One aspect of monitoring that was not addressed explicitly in providers' responses to our survey was 'learning analytics', in which analysis of student performance data is used to predict the behaviours of different groups and so assist with enhancing institutional strategies for academic and personal support. While the current emphasis remains very much on evaluation based on reflection, using data predictively is likely to take on increasing significance in the future as is reflected in the current number of JISC³⁶ and other projects in this field.
38. Providers who contributed to this research, including participants in workshops and conferences welcomed the opportunity to describe their experiences of accessing and engaging with data, both positive and negative. There is considerable interest within the sector in this aspect of quality assurance activity and opportunities should be taken to maintain such dialogues and showcase evolving good practice, particularly in the development of systems that place more control in the hands of data end-users.

³⁶ <https://www.jisc.ac.uk/rd/projects/effective-learning-analytics> (accessed 15th February 2016).

Appendix:
Survey questionnaire

Quality Strategy Network

Questionnaire on the use of programme performance data to support academic quality assurance

Thank you for taking part in this brief questionnaire. Please take a moment to answer the following questions concerning the collection, analysis and evaluation of management data, with regards to the development, monitoring and review of programmes within your institution.

Note: if you leave the questionnaire before completion, your answers will be automatically saved so that you can resume the questionnaire at a later point. However, your answers will not be saved if you continue from a different computer, in a different web browser, or have cleared your cookies since your last response was recorded.

Please enter the name of the institution you are representing:

Please enter the email address at which you received this questionnaire

I agree to take part in this questionnaire with the knowledge that all information gathered will be kept anonymous, and that any information used in a future report will not reference any individual institution.

Please click below:

- I agree to take part

Programme design & development

When gathering information to help inform programme **design and development**, which of these sources of data are utilised within the institution?

Please select all that apply:

- Market research
- Student performance measures
- Student feedback
- Other feedback

Please specify: _____

Please briefly explain how this data collected is assessed appropriately in order to inform programme design and development:

Programme monitoring & review

When gathering information to **monitor and review** programmes, which of these sources of feedback data are utilised?

Please select all that apply:

- Students
- Staff
- Employers
- Alumni
- Other feedback
Please specify: _____

Please briefly explain how the feedback data collected are evaluated in order to inform programme monitoring and review:

When gathering information to **monitor and review** programmes, which of these sources of programme performance data are utilised?

Please select all that apply:

- Recruitment: applications, offers, conversions, enrolments
- Retention
- Progression
- Pass rates
- Final degree awarded
- Other data
Please specify: _____

What sources are used to collect this programme performance data?

Please select all that apply:

- The institution's student record system
- A separate specifically developed system
Please specify: _____
- Other
Please specify: _____

Please briefly explain how the student progression and achievement data collected are evaluated in order to inform programme monitoring and review:

When gathering information to **monitor and review** programmes, what other sources of data are utilised?

Please select all that apply:

- Publicly available information/information reported to external bodies
- Reports from external examiners
- Any other comparative data not mentioned above

Please briefly explain how any other data collected are evaluated in order to inform programme monitoring and review:

Disaggregation of protected characteristics

From the following set of protected characteristics, please indicate where attempts are made to disaggregate programme performance data in order to identify any differential impact on particular groups of students.

Please select all that apply:

- Age
- Disability
- Race
- Religion/belief
- Sex
- Sexual orientation
- Marriage & civil partnership
- Pregnancy/maternity
- Gender reassignment
- Other

Please specify: _____

Further use and development of data systems

Please now briefly explain the institution's process for identifying **new data requirements**, with regards to programme development, monitoring and review.

Separate from quality assurance, please briefly explain how programme performance data are used to support **quality enhancement** for current and future students:

Please briefly explain how the systems of data collection and generation in place within the institution are further **developed and improved** upon:

Follow-up interview

Finally, it would be of great interest to further discuss the data systems in place at the institution in greater detail. Please indicate whether you, or a named colleague, would be interested in taking part in a telephone interview, and/or a site visit to your institution.

Please select all that apply:

- Yes to a telephone interview (please enter the name and email address of the person to contact):

- Yes to a site visit

