Learning Analytics in UK HE 2015

A HeLF Survey Report

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ABOUT THE HEADS OF E-LEARNING FORUM (HELF)

HeLF was established in 2003 as a UK 'network of senior staff in institutions engaged in promoting, supporting and developing technology enhanced learning' (HeLF, 2015). Each UK Higher Education institution can nominate one representative to HeLF which now has over 130 institutional members.

HeLF has three face-to-face meetings each year on a topical eLearning theme. It also has an active mailing list which is restricted to HeLF members in order to provide a closed forum for debate on current issues.

HeLF acts as 'an advisory body for national and governmental organisations' such as the UK Higher Education Academy (HEA) and JISC, on 'issues relating to eLearning institutional strategy and implementation'. It is 'proactive in soliciting responses from such bodies and promoting the views of its membership'.

Enabling collaboration on 'the strategic implications of developing and implementing eLearning', HeLF supports 'the processes by which eLearning strategy can be effectively created, and implemented, including advice, support and co-operation between members' (HeLF, 2015).

More information about HeLF and its activities is available at http://www.helf.ac.uk/

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EXECUTIVE SUMMARY

This report presents the analysis of the Heads of eLearning Forum (HeLF) survey on Learning Analytics (LA) UK Higher Education (HE). The key findings from the 53 responses (38% response rate) are:

- Current situation
  - nearly half of UK HEIs have not implemented LA at all, about a third are working towards implementation and nearly a fifth have partially implemented with just 1 fully implemented
  - three quarters of senior management have limited levels of understanding of the possible benefits and outcomes of implementing LA. There are differing levels of awareness and understanding both within and across departments
  - the current focus of developments places equal importance on retention and enhancement of learning
- Implementation
  - the software being used or expecting to be used is a mixture of specific LA software and exisiting institutional software such as the VLE and student record system with a quarter of HEIs also undertaking in-house developments
  - the main data sources being used or planned to be used are as expected, i.e.: VLE, student information systems, Library systems plus attendance monitoring, lecture capture and media streaming systems if available and some also included swipe cards to access buildings
  - there is a lack of awareness of existing frameworks, such as the Predictive Analytics Reporting Framework, and how they might benefit institutions
  - principles and best practices around the ethical use of data as well as a code of practice/policy are mainly under consideration with very few institutions having addressed these issues to date.
- Ownership
  - mainly the responsibility of senior management whereas leading and operationalizing its implementation could be undertaken by a range of departments e.g. Quality, Planning, Registry, IT Services, eLearning, Academic Development, Learning Services, Academic. There was a sense that analysis would be largely academically led by personal tutors being supported by dashboards
  - there are considerable levels of stakeholder involvement from students, academics and administrators
  - over 90% of academics are given, or are expected to be given, a view of the LA data for them to use to inform their activities. There were also high levels for access by students, departmental administrators and personal tutors. It is expected that the data would have relevance for specific groups and there would be dynamic, customized reports based on viewer permissions.
- Heads of eLearning
  - over a quarter of Heads of eLearning are greatly involved and another 60% have some involvement
  - nearly 60% of Heads of eLearning are OK with their current level of involvement and nearly 40% would like more involvement

INTRODUCTION

Learning Analytics is becoming a hot topic in UK higher education, with growing interest from most universities as a perceived means to improve the student learning experience including retention, progression and achievement (Paddick, 2015). It is clear, however, from the recent Jisc report *Learning Analytics: the current state of play in UK higher and further education* (Sclater, 2014), that the UK tertiary education sector is still at a very early stage in its adoption of Learning Analytics. That report offers a snapshot of activity across a variety of institutions and describes the scope and outputs of some of the higher profile institutional projects.

The aim of this HeLF report is to gain a better understanding of the other side of the Learning Analytics spectrum to that covered by the Jisc report; it offers a snapshot of the sector from the perspective of institutional Heads of eLearning, and attempts to understand the current levels of awareness, adoption (or otherwise), maturity, drivers, challenges and known/perceived benefits.

There are various definitions of Learning Analytics (Bischel, 2012, Cooper, 2012, Ferguson, 2015). A working definition for the purpose of this paper is the "field associated with deciphering trends and patterns from educational big data, or huge sets of student-related data, to further the advancement of a personalized, supportive system of higher education." (Johnson *et al*, 2013). It is, therefore, more than metrics; it is a process. (Bischel, 2012).

This report is the fifth in a series of surveys of HeLF members that aim to understand and track the changing digital landscape in UK Higher Education and its impact on Heads of eLearning. Three earlier surveys on the Electronic Management of Assessment (EMA) undertaken from 2011 to 2013 and a survey on Tablet Technologies undertaken in 2014 are available on the HeLF website at: http://www.helf.ac.uk

METHODOLOGY

This research on the UK HE levels of implementation and development of learning analytics (LA) draws upon the perceptions of HeLF members on the situation in their own institution. HeLF members have an overview of eLearning strategy, policy and practice in their institution.

The HeLF membership was surveyed online during May and June 2015. The survey was developed by the authors who are members of the HeLF Steering Group. All the data has been held anonymously and securely. The results have been analysed using qualitative and quantitative methods.

Members who stated that they would like to be contacted to provide further details were emailed in September 2015. They were asked if they would like to provide information on challenges they had implementing or planning the implementation of LA, benefits they have seen institutionally and lessons learned they would pass on to the sector in up to 500 words.

RESULTS

There were 53 responses from separate institutions, resulting in a response rate of 38% of the total HeLF membership. The results to each question are given below.

## HOW FAR HAS THE IMPLEMENTATION OF LA PROGRESSED IN YOUR UNIVERSITY?
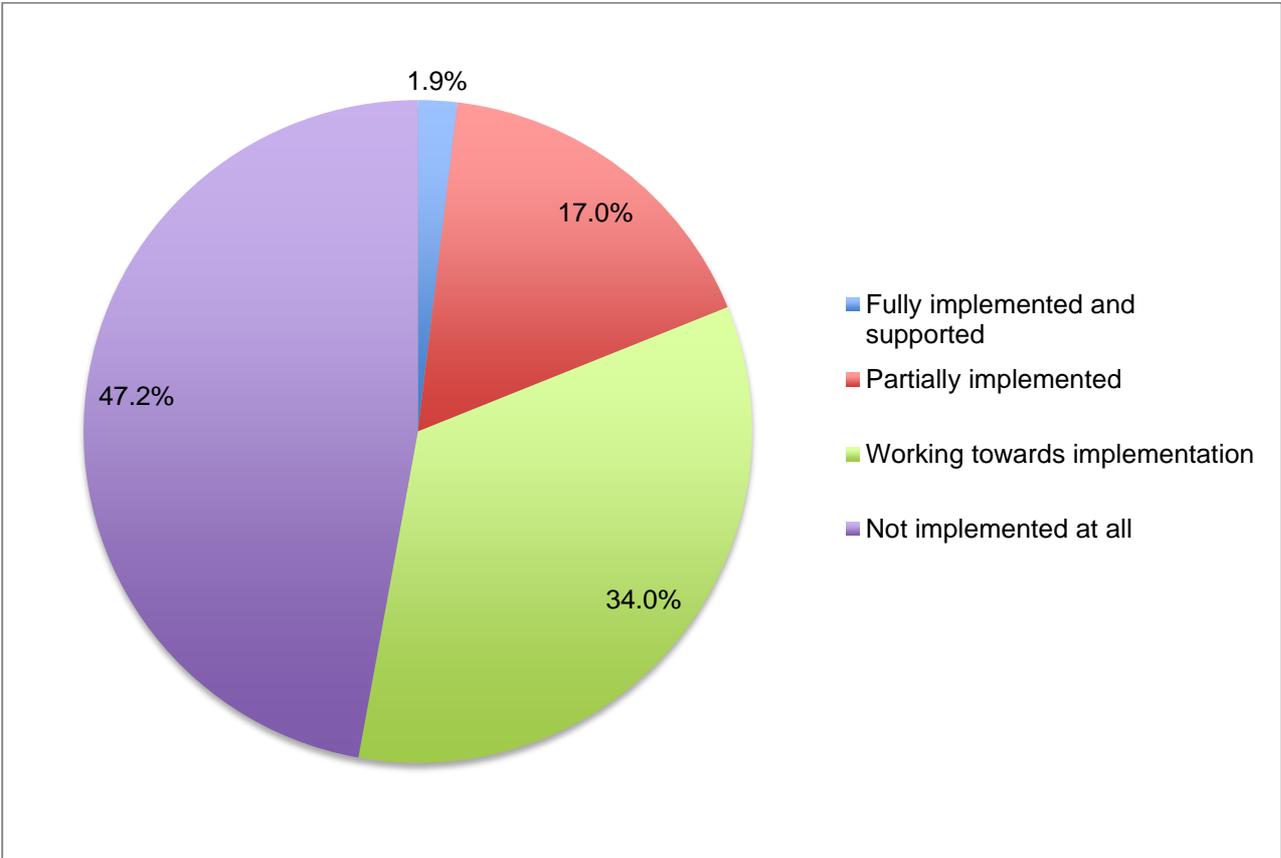
Figure 1: How far has the implementation of LA progressed in your university?

	Response – Percentage	Response - Count
Fully implemented and supported	1.9	1
Partially implemented	17.0	9
Working towards implementation	34.0	18
Not implemented at all	47.2	25
	Answered question	53

22 free text comments were received and the clear message was that for many respondents, learning analytics are still a topic for discussion rather than an activity. Just under half of those making free text comments (10 responses) are 'working towards', discussing, or scoping projects. 9 are attempting small-scale or per-system approaches, with the remaining 2 actively looking at integration of systems into institutional data-warehouses. Only one university described a whole-university approach to Learning Analytics, "We have developed a dashboard to support students. It has been implemented across the University at all levels."

WHAT IS THE LEVEL OF UNDERSTANDING OF THE POSSIBLE BENEFITS AND OUTCOMES OF IMPLEMENTING LA ACROSS YOUR INSTITUTION OF YOUR SENIOR MANAGEMENT?
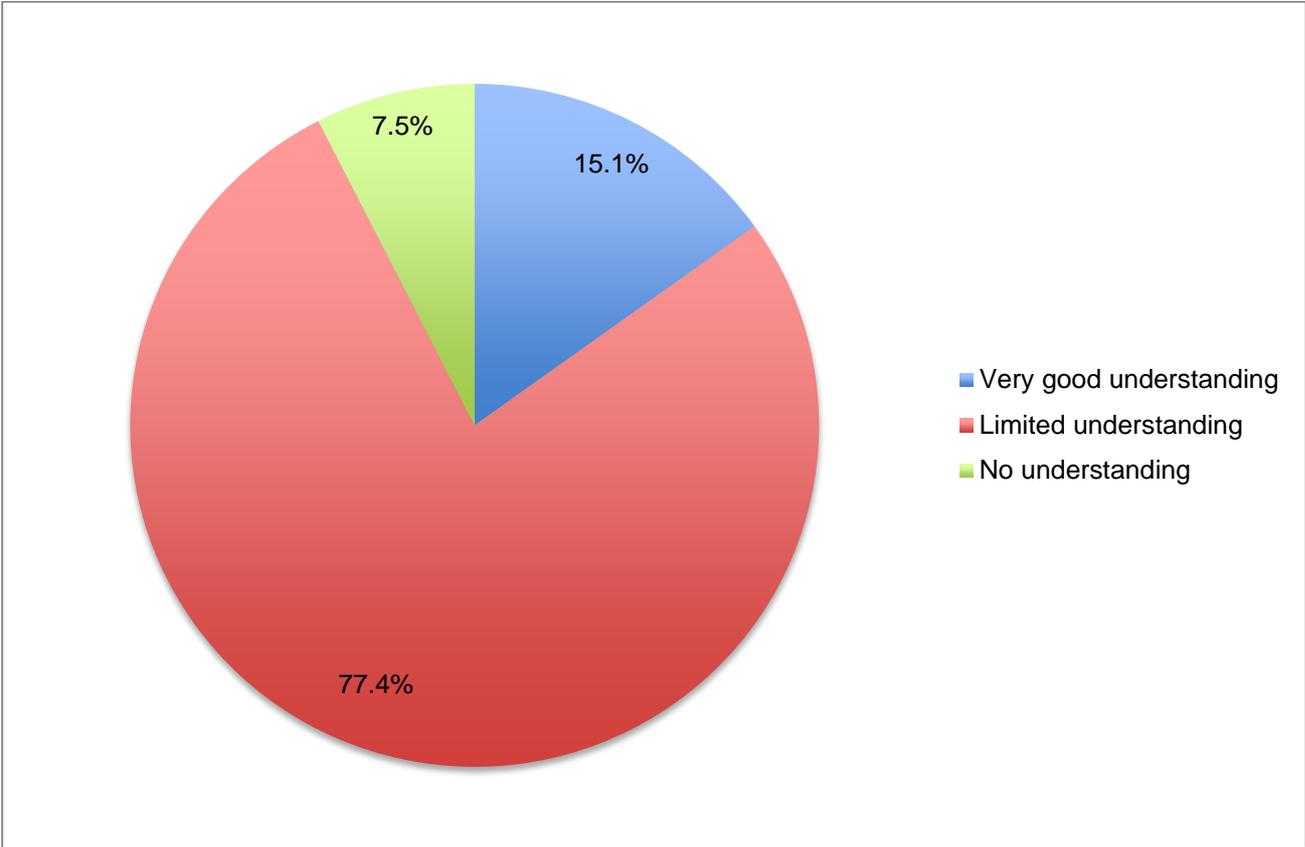
Figure 2: What is the level of understanding of the possible benefits and outcomes of implementing LA across your institution of your senior management?

	Response – Percentage	Response - Count
Very good understanding	15.1	8
Limited understanding	77.4	41
No understanding	7.5	4
	Answered question	53

13 free text comments were received of which all but one referred to differing levels of awareness and understanding both within and across departments. Teams within technical areas having, perhaps unsurprisingly, the greatest understanding. Two respondents suggested that case studies showing demonstrated benefits would be a useful tool for raising awareness and understanding of learning analytics in all stakeholders.

WHAT IS, OR DO YOU EXPECT TO BE, THE CURRENT FOCUS OF DEVELOPMENTS?
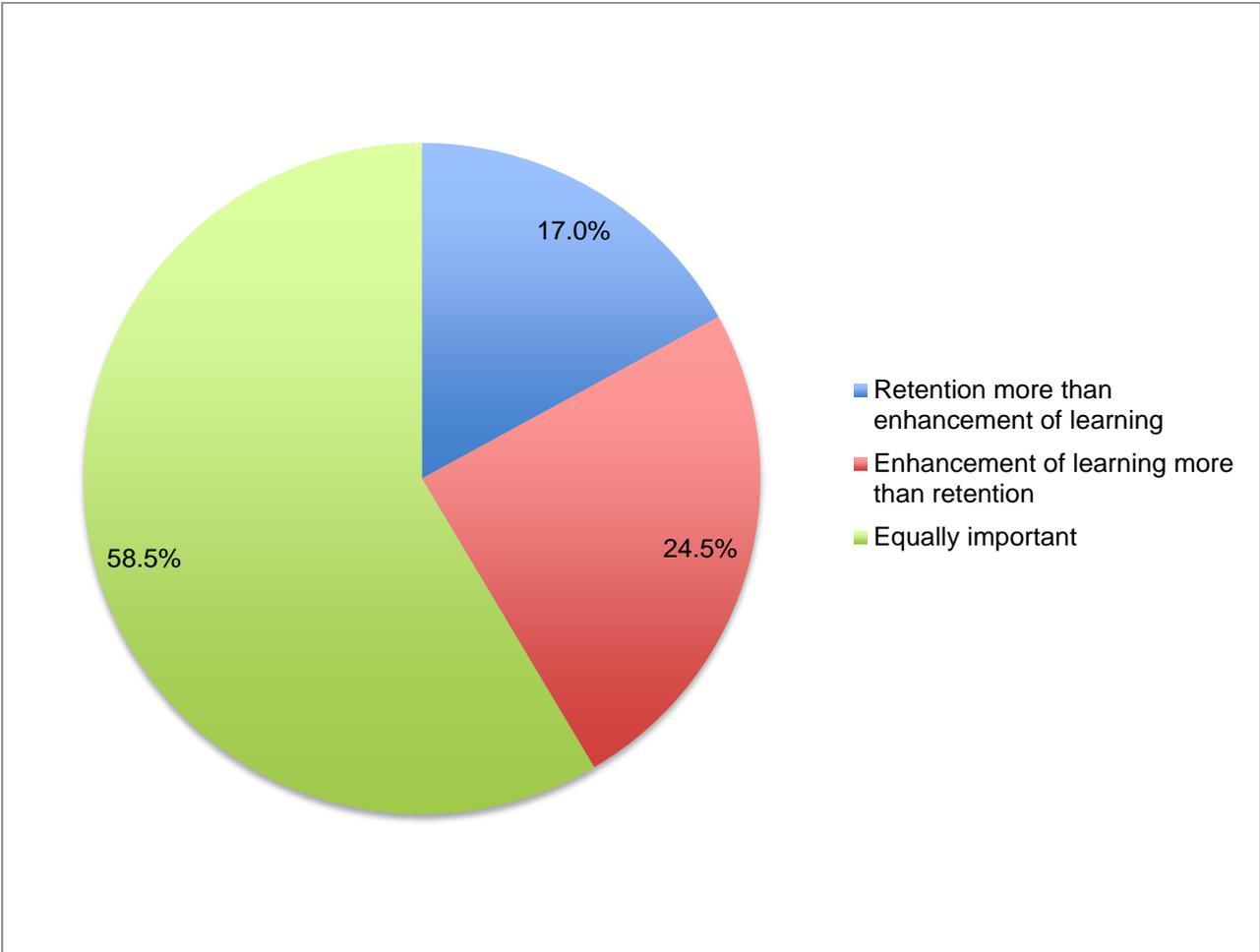
Figure 3: What is, or do you expect to be, the current focus of developments?

	Response – Percentage	Response - Count
Retention more than enhancement of learning	17.0	9
Enhancement of learning more than retention	24.5	13
Equally important	58.5	31
	Answered question	53

12 free-text comments were received, largely mirroring the quantitative response that enhancement and retention are of equal importance. Other drivers mentioned were inclusivity, feedback and assessment, financial and change management, for student use, measuring impact of tools e.g. lecture capture on teaching and learning.

WHAT SOFTWARE ARE YOU USING, OR EXPECT TO USE?
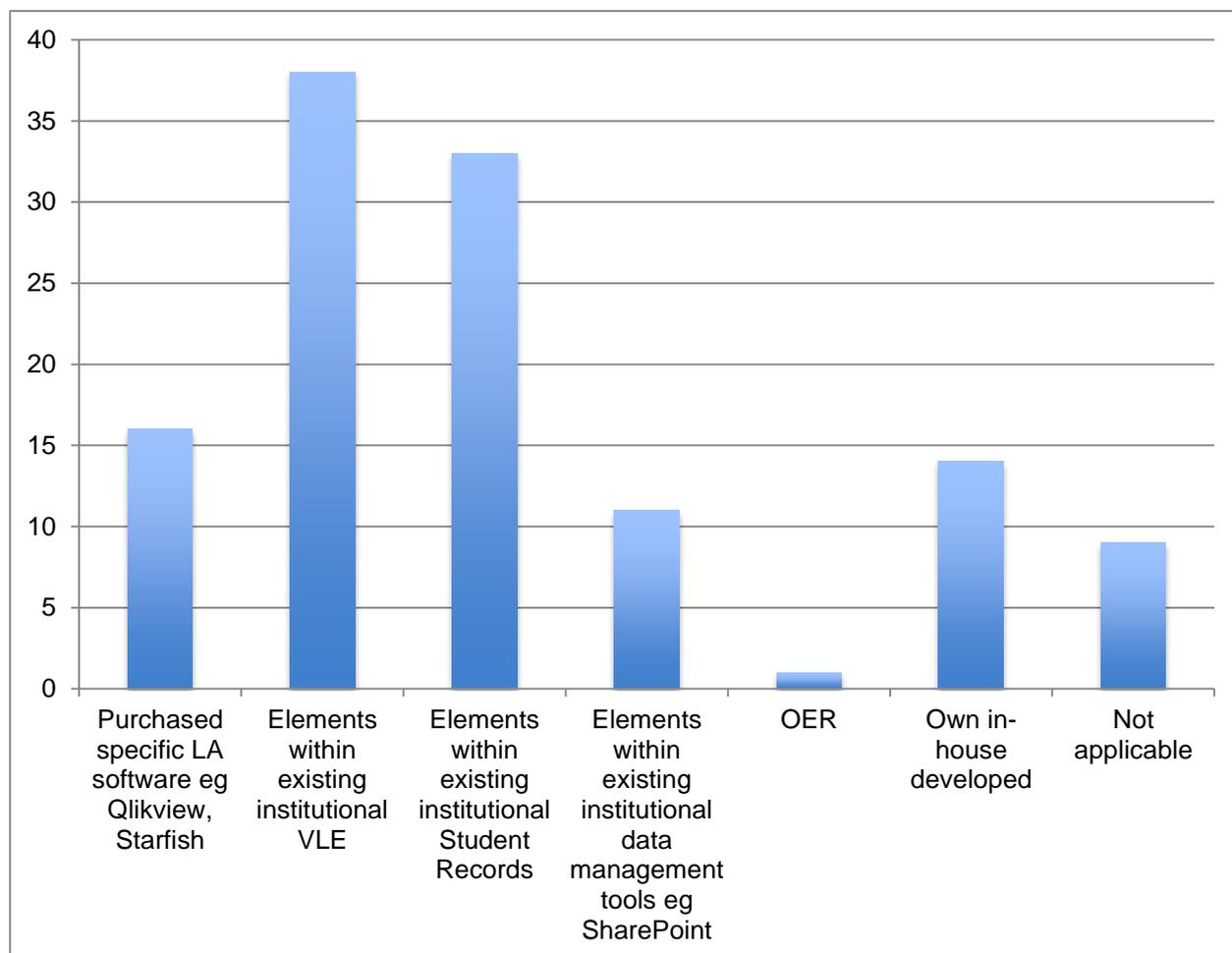
Figure 4: What software are you using, or expect to use?

	Response – Percentage	Response - Count
Purchased specific LA software eg Qlikview, Starfish	31.4	16
Elements within existing institutional VLE	74.5	38
Elements within existing institutional Student Records	64.7	33
Elements within existing institutional data management tools eg SharePoint	21.6	11
OER	2.0	1
Own in-house developed	27.5	14
Not applicable	17.6	9
	Answered question	51

The 26 free text responses can be broken down into three broad themes; specific analytics software already being used, software that institutions have identified as likely to use when

ready, and those who are at too early a stage of development to consider a software solution.

In addition to specific analytics software such as Qlikview and Starfish, there is Tableau used by 5 (or expecting to use it), 4 were considering Blackboard Analytics and 2 are waiting to see what the Jisc 'freemium' tool offers. There are 2 in-house developments and 1 user of SolutionPath Stream.

DATA SOURCES
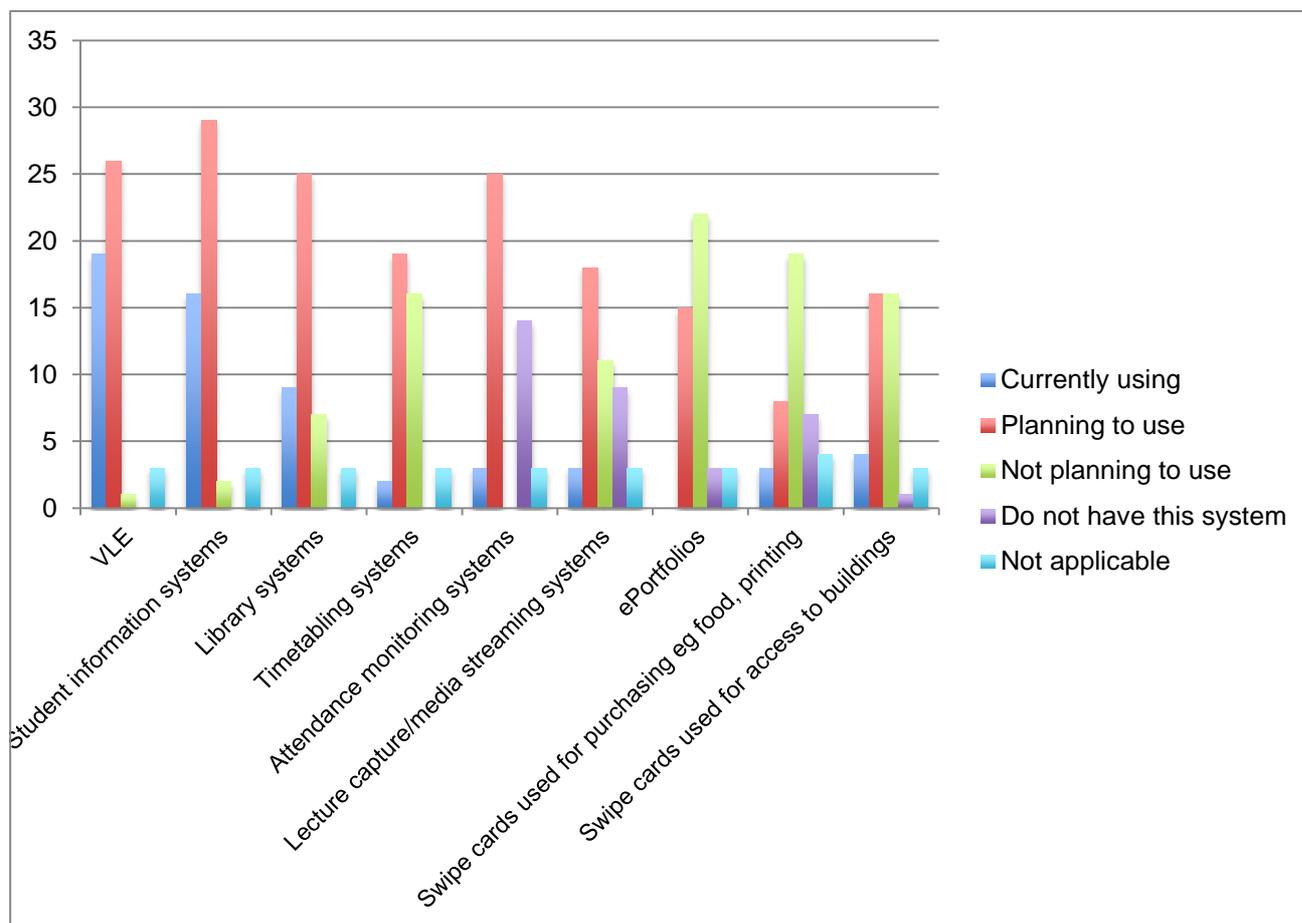
Figure 5: Data sources

	Currently using	Planning to use	Not planning to use	Do not have this system	Not applicable	Response count
VLE	19	26	1	0	3	49
Student Information systems	16	29	2	0	3	50
Library systems	9	25	7	0	3	44
Timetabling systems	2	19	16	0	3	40
Attendance monitoring systems	3	25	0	14	3	45
Lecture capture/media streaming systems	3	18	11	9	3	44
ePortfolios	0	15	22	3	3	43
Swipe cards used for purchasing eg food, printing	3	8	19	7	4	41
Swipe cards used for access to buildings	4	16	16	1	3	40

This question elicited 16 responses, of which 12 specified data sources currently being captured, in addition to those listed in the figure 5. These 12 comprised:

Assessment systems

Curriculum maps

Student Union data

Destination data

Lecture tools

Personal tutor system

Student engagement system

WIFI connections

Campus PC logins

CampusM app

iBeacon (location services)

Two respondents sounded a note of caution from their experience. Firstly, data reliability can be an issue – for them, data from business systems (e.g. student record systems, library management and virtual learning environments) are perceived to be the only reliable source of data for learning analytics. Secondly, that they excluded demographic data from data collection for ethical reasons.

ARE YOU USING, OR PLANNING TO USE, EXISTING FRAMEWORKS
E.G. PREDICTIVE ANALYTICS REPORTING FRAMEWORK?
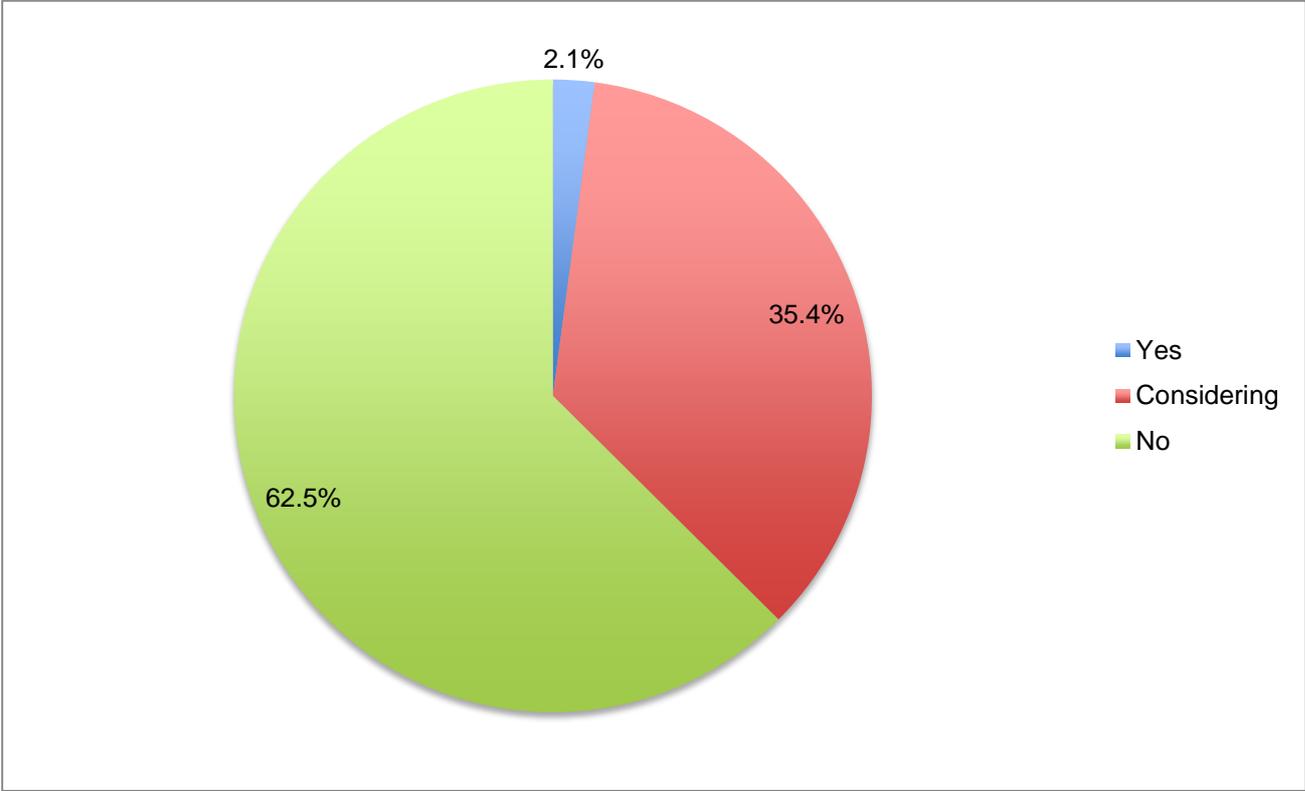
Figure 6: Are you using, or planning to use, existing frameworks e.g. Predictive Analytics Reporting Framework?

	Response – Percentage	Response - Count
Yes	2.1	1
Considering	35.4	17
No	62.5	30
	Answered question	48

Only 1 institution is using or planning to use an existing framework. Ten of the 12 comments received indicated a lack of awareness of what frameworks are available and how they might benefit institutions. There were two comments from institutions that have implemented some form of learning analytics. Both suggested that frameworks were not helpful in their context.

"We consider that it's important to focus on the outcomes that we need as an institution rather than focus on a specific commercial product"

"From the research we have done, the relative importance of different components is so variable (programme to programme) that we don't see the value of standard reporting."

WHO, OR WHO DO YOU EXPECT WILL, OWN/LEAD/ANALYSE THE LA IMPLEMENTATION AND DEVELOPMENT?
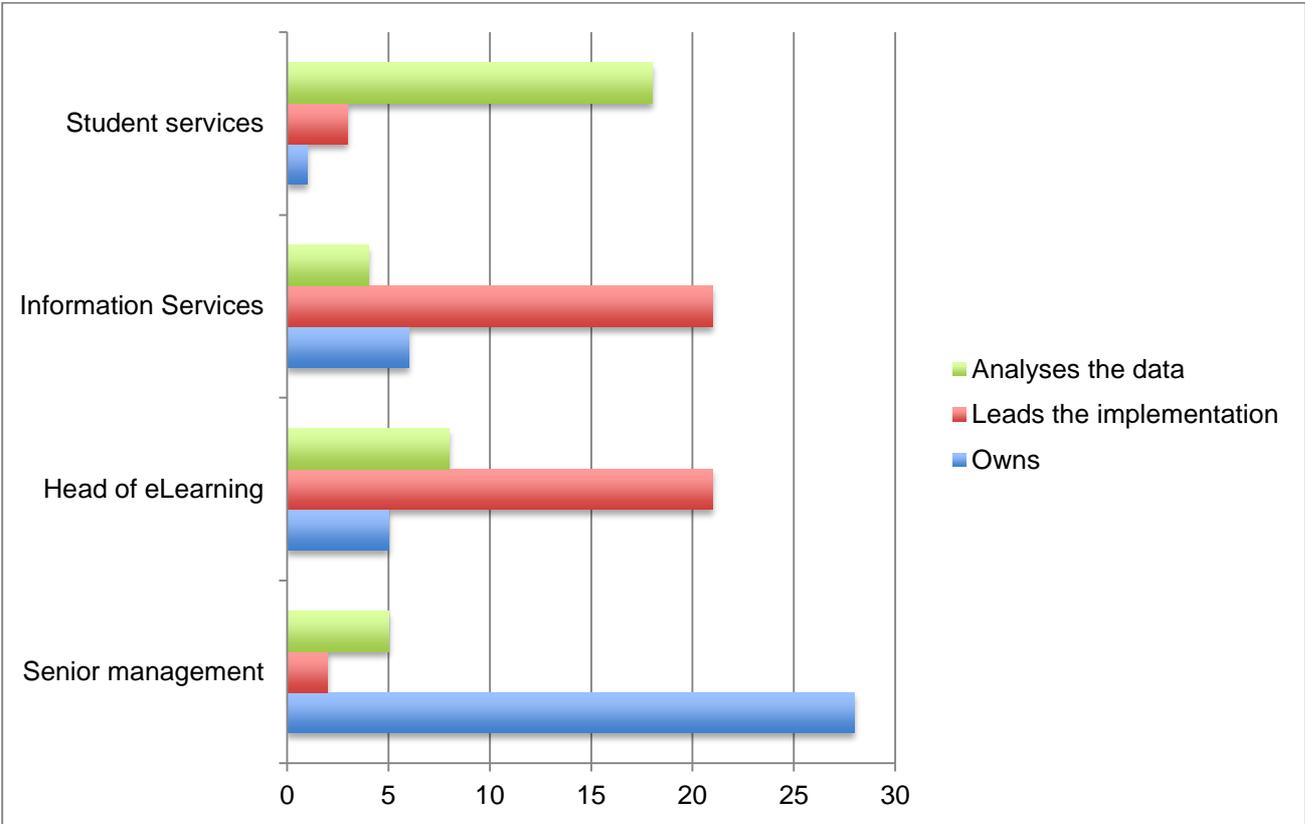

Figure 7: Who, or who do you expect will, own/lead/analyse the LA implementation and development?

	Owns	Leads the implementation	Analyses the data
Senior management	28	2	5
Head of eLearning	5	21	8
Information Services	6	21	4
Student services	1	3	18

There were 21 comments under this question expanding on the Heads of eLearning perspective. Whilst 'ownership' of learning analytics is seen as mainly the responsibility of senior management, leading and operationalizing its implementation could be undertaken by a range of departments e.g. Quality, Planning, Registry, IT Services, eLearning, Academic Development, Learning Services, Academic. There was a sense that analysis would be largely academically led by personal tutors being supported by dashboards (4 responses).

STAKEHOLDER INVOLVEMENT
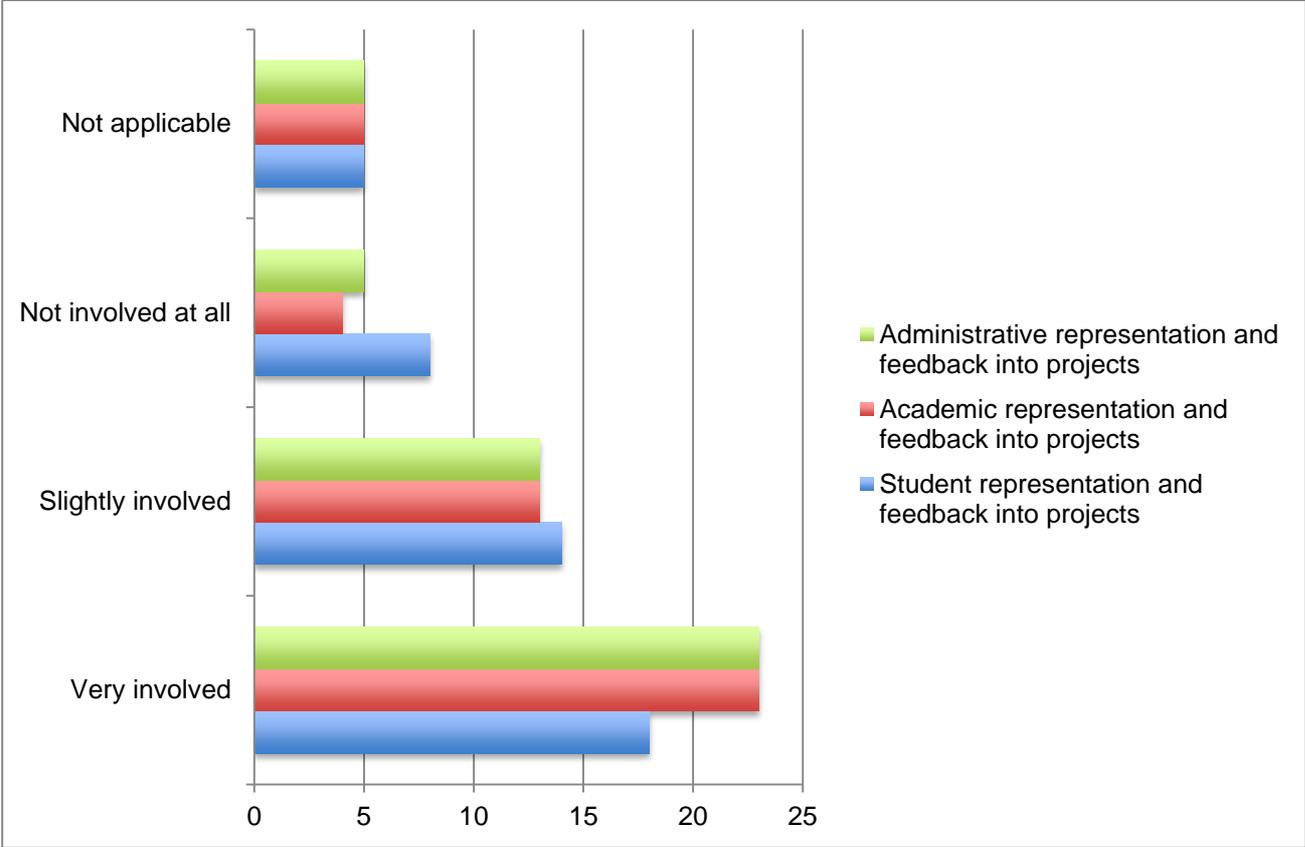
Figure 8: Stakeholder involvement

	Very involved	Slightly involved	Not involved at all	Not applicable
Student representation and feedback into projects	18	14	8	5
Academic representation and feedback into projects	23	13	4	5
Administrative representation and feedback into projects	23	13	5	5

Whilst the quantitative data suggests that there is already considerable stakeholder engagement, of the 17 free text comments provided, only 3 state they have consulted widely across all stakeholder groups. The remainder allude to limited consultation/ engagement due to early or no learning analytics development.

WHICH OF THE FOLLOWING GROUPS OF STAFF ARE GIVEN, OR ARE
EXPECTED TO BE GIVEN, A VIEW OF THE LA DATA FOR THEM TO USE TO
INFORM THEIR ACTIVITIES?
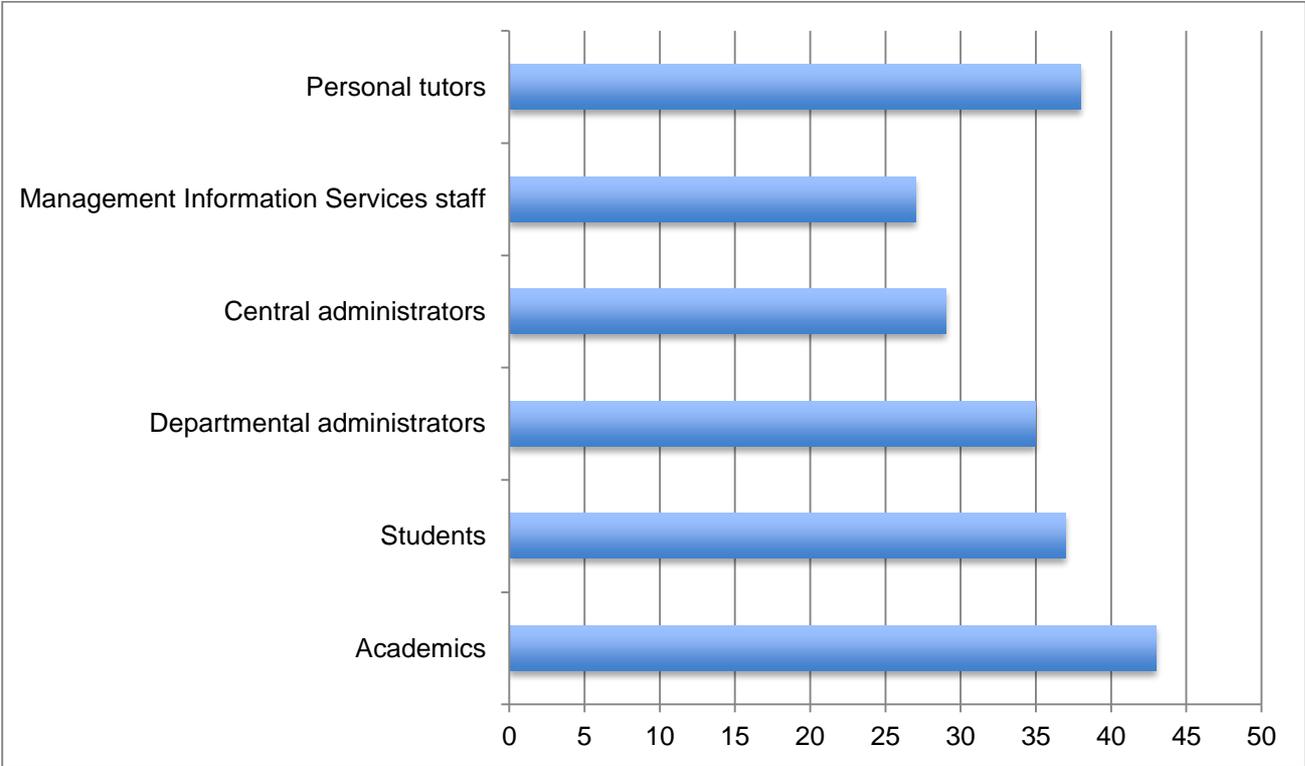
Figure 9: Which of the following groups of staff are given, or are expected to be given, a view of the LA data for them to use to inform their activities?

	Response – Percentage	Response - Count
Academics	91.5	43
Students	78.7	37
Departmental administrators	74.5	35
Central administrators	61.7	29
Management Information Services staff	57.4	27
Personal tutors	80.9	38

There were 19 comments expanding on this question. Whilst for the majority it is too early to say with any certainty who would have access to reporting, two themes emerged. Firstly, the probability that the systems used and data obtained would have relevance for specific groups of staff only e.g. personal tutors. The second theme was around the potential for all stakeholders to have access to a view of the data in the form of dynamic, customized reports based on viewer permissions.

Figure 10: Ethics and data security

	Yes	Under consideration	No	Not applicable
Has your institution considered principles and best practices around the ethical use of data	13	28	5	4
Have you adopted a code of practice/policy?	5	24	13	6
			Answered question	50

There were 16 comments expanding upon this question. Of these, 7 indicated that ethical issues were under active consideration in their institution. The Open University ethical use of student data policy (Open University, 2014) and the Jisc Code of Practice (Sclater, 2015) were each referenced by 2 respondents as being informative.

**Figure 11: What is your level of involvement as Head of eLearning?**

	Response – Percentage	Response - Count
Greatly involved	26.5	13
Some involvement	61.2	30
No involvement	12.2	6
	Answered question	49

From the qualitative and quantitative responses received it would seem that a Head of eLearning is likely to be involved with learning analytics in their institution. Of the 13 comments received, 4 think it is too early to say, one person "..kicked it all off, then stood back" and another is "cheering from the sidelines". 6 are either expecting to be involved or already undertaking awareness raising, advisory and advocacy roles.

WOULD YOU LIKE MORE INVOLVEMENT?
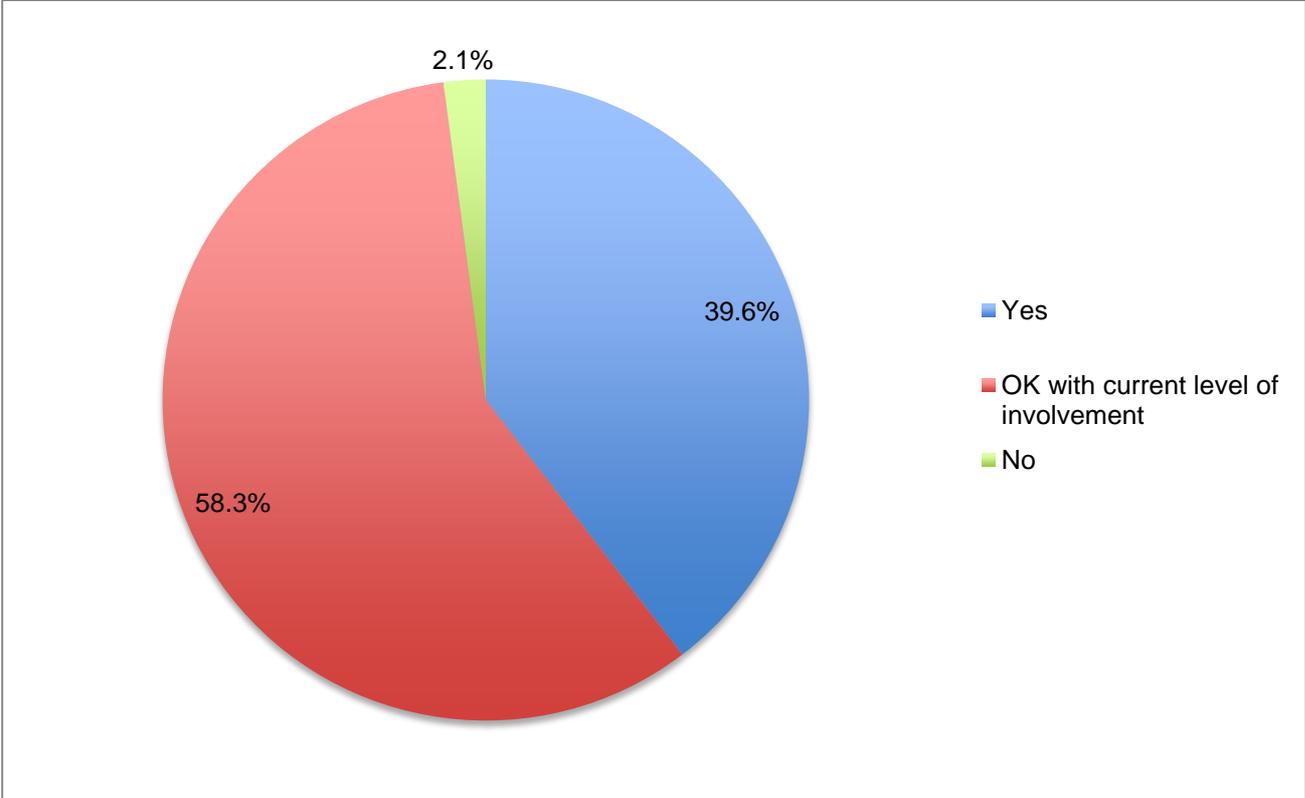
Figure 12: Would you like more involvement?

	Response – Percentage	Response - Count
Yes	39.6	19
OK with current level of involvement	58.3	28
No	2.1	1
	Answered question	48

Of the 11 comments received, 6 favoured greater involvement with the learning analytics agenda and developments within their institution. Three respondents were more tentative citing too many competing demands, politics and lack of resource as the reasons.

FURTHER INFORMATION

Members were asked to provide further information relating to learning analytics in their institution and their role in relation to this. 16 responses were received of which half described a perceived lack of institutional readiness for implementing learning analytics. Two of these cite competing priorities as a reason, with one adding "LA is not seen as a 'problem-solver' at my HEI".

The Jisc Learning Analytics programme and associated developments is being watched with interest. One response stated "We would like to align with some of the work Jisc has been doing on this, particularly as we don't seem like we will be ahead of the game on this one."

The importance of senior management buy in and leadership was a recurrent theme in this section.

> "I need to be able to make the case convincingly to senior staff who allocate budget in a year of reducing resource. Value for money will be high on the agenda – measured in increasing [student] attainment levels and increasing retention."

> "It has been a huge project. It is extremely important it is not seen as an IT project. It is clearly impossible to implement without a strong IT core but this has to be owned and bought into by the whole institution."

> "LA is being lead from the centre, strategic level of the institution with a focus on enhancing the management of information."

24 members stated that they would like to be contacted to provide further details. They were asked if they would like to provide information on challenges they had implementing or planning the implementation of LA, benefits they have seen institutionally and lessons learned they would pass on to the sector in up to 500 words. No responses were received before the deadline at the end of September. However, there will be future opportunities for members to contribute at HeLF meetings.

DISCUSSION AND FURTHER RESEARCH

The survey provides a snapshot of the current situation regarding the implementation and development of LA within the UK HE sector in 2015. The perceptions and views of Heads of eLearning across a range of institutions, representing over a third of the HeLF membership, offers a useful overview to support further developments. HeLF members are actively involved in this growing area of development and implementation.

CONCLUSION

The aim of this HeLF report is to gain a better understanding of the LA spectrum from the perspective of an institutional Head of eLearning, and attempts to understand the current levels of awareness, adoption (or otherwise), maturity, drivers, challenges and known

benefits. There is a lot of interest in LA with most institutions at the discussion stage of working towards implementation. It is clear that implementation requires cross-institutional working in a similar way to the previous implementation of VLEs and the on-going implementation of the Electronic Management of Assessment. At institutional level, the data reveals differing levels of awareness and understanding both within and across departments of the challenges and benefits of LA. The drivers of retention and the enhancement of learning are perceived to have equal importance. The area of LA already involves 88% of Heads of eLearning and it seems set to remain an important part of their role going forward.

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