Supporting Progression and Completion - Final Report

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Executive Summary

1) This report assesses opportunities to reduce student drop out on the University of London International Programmes.
2) The report is in five sections. In section 1 data from three UK undergraduate programmes is analysed.
3) In section 2 the international literature on student retention is reviewed; focusing on four areas where new developments in practice are relevant to learning design, retention and progression.
4) In section 3 the findings from the programme data are discussed. The evolution of two cohorts from each of the three programmes is analysed and the non-linear nature of student learning journeys is illustrated. Although there is significant drop out each year, the first year of study is highlighted as a key area where there are opportunities to make significant improvements in student retention.
5) The fourth section provides a framework for programme teams to use and adapt in thinking about the first year.
6) The report concludes with an extensive bibliography.

1) Introduction

This project set out to identify, and assess the feasibility, of approaches to mitigate against student drop out from the International Programmes. Following discussion with staff from the Centre for Distance Education it was decided to look at three programmes: UK undergraduate Laws, UK undergraduate EMFS (LSE) and UK undergraduate English (Goldsmiths). In limiting consideration to UK programmes variations in support across different locations and by international study centre were excluded.

In stage 1 of the project we reviewed Annual Reports from the three programmes. We were also able to access the report produced for the International Academy as part of the evaluation of the Bloom Thrive implementation (Remedios, 2016). However, the principal source of insights into retention was data for two cohorts of students; those who registered for the first time on the 2012/13 presentation of the three programmes and those who registered for the first time in 2013/2014. The data allowed us to track student retention, module pass rates and awards for members of each cohort up to the end of 2016/17.

The Remedios report was concerned with the feasibility of developing predictive analytic models to enhance student retention. It found that

'*Very few of the variables gave a strong separation between the retained/non-retained student groups. However, it seemed variables relating to the student background, course and institution could have potential predictive value*'.

The student background data available to us included limited information on student background – age, gender, nationality and previous education. Nationality and previous education, however, was listed as unknown for a significant proportion of both cohorts.

In view of the earlier statistical work by Remedios, we focused on analysing the evolution of our two cohorts from the first year of registration up to the end of 2016/17. There was a consistent pattern of attrition across all three programmes and both cohorts. This is illustrated in Figure 1. Across all three programmes 645 students registered for the first time in 2012/13. Only 59% of these students registered for modules in 2013/14. The number of registered students continues to decline by approximately one third in each successive year. A small proportion of the reduction in activity after the first year is due to students achieving awards – however, over the five years for which we were able to track progress, only 103 students (16%) had achieved an award (see Figure 2).

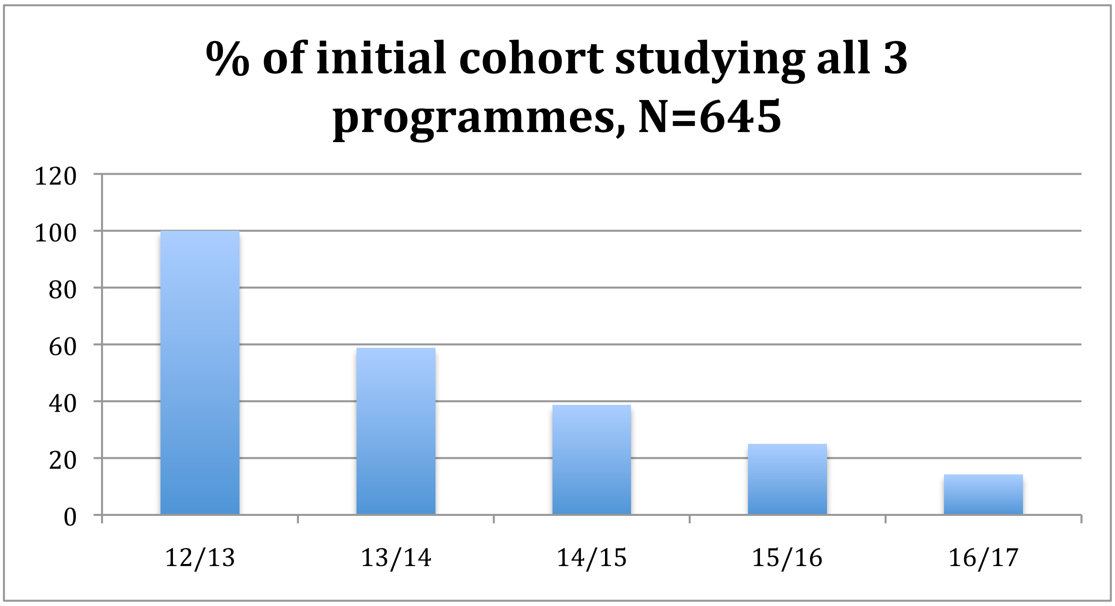

Figure 1

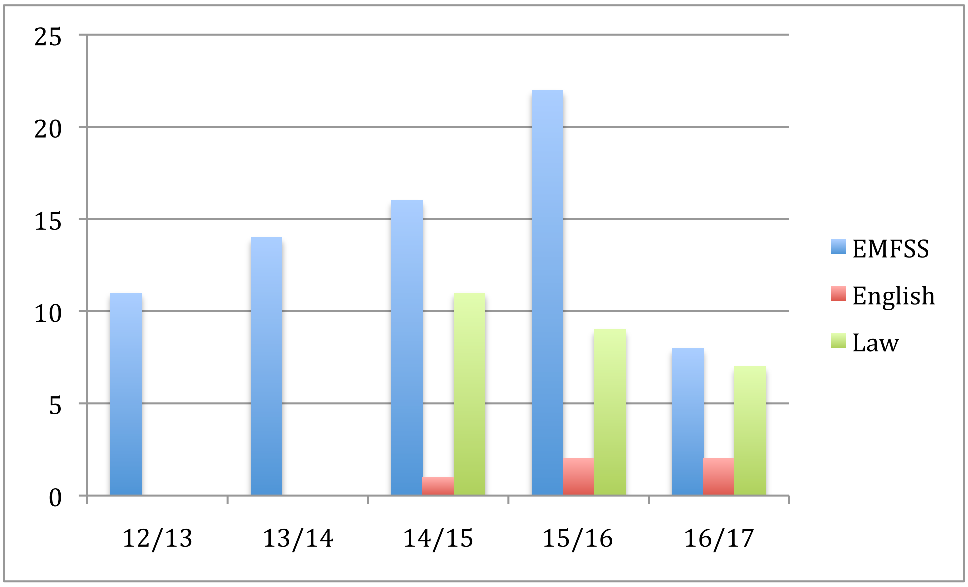

Figure 2 – distribution of awards across the three programmes by year.

The pass rate for students who sit their module exam is typically in the range 70 to 80%. However, across both cohorts and all three programmes between 40 and 50% of students do not sit the exam. We found no consistent correlation between the number of modules a student chose to register on and retention or success. Since our data sets only included information on module registration and completion it was not possible to draw any conclusions about when students ceased to be active, or the reasons for dropping out.

In analysing the data we used the same definition of retention as Remedios - – if the SRN of a year x student appeared in the year (x+1) data then they are classified as retained. This definition has the virtue of simplicity, however, it implicitly assumes that the learning journey is continuous. Close inspection of individual student trajectories over the five years of records suggests that this is not the case. Progression is non-linear, students have breaks in study and some then reingage.

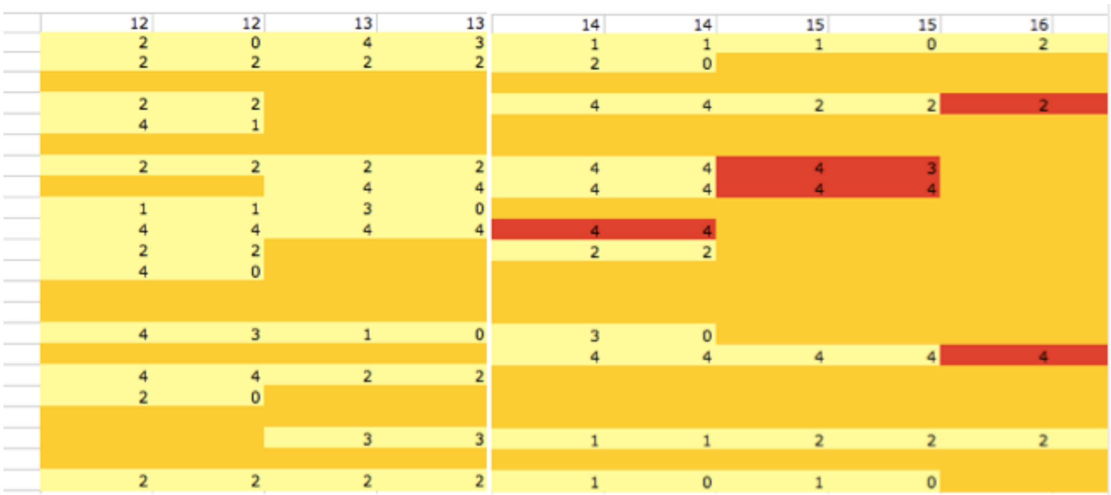

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Figure 3

Figure 3 illustrates the progression of the 2012/13 English cohort. The evolution of the cohort over time indicates the complexity of the student journey. Although the numbers in this cohort are small the pattern of progression displays characteristics that are also present in the EMFS and Laws data. Light yellow bars indicate a student active in a particular year (and the number of modules studied). Mustard coloured bars indicate years when students are inactive and red bars indicate a year when an award was achieved.

Two of the authors came to this study with experience from the OU UK. We are conscious that some aspects of our observations may be artefacts of the registration system. Nevertheless, the patterns of progression we observe in the data are typical of the part-time learning journeys with which we are familiar. It was not possible within the frame of the project to engage in a dialogue with programme teams, however, the data suggests that positive interventions at major points of transition – initial registration and transition form one year to the next – would have a significant impact on retention. We discuss this further in the final section of this report.

Literature review – background

About this review

In our research proposal we identified assessment for learning and peer support online as two areas that might be relevant to our study. After reviewing the programme data we added two further themes, learning analytics and the first year of study to the frame for our literature review.

There is an extensive literature on the theory and practice of student retention that builds on groundbreaking work in the 1980s (Tinto, 1987; Bean and Metzner, 1985). Concerns about equity of outcomes across increasingly diverse student population have paralleled the massification of national higher education systems. More recently, and particularly in high fee systems, interest in student retention has also reflected worries about the financial impact of drop out on both students and institutions (see for example Crawford, 2014).

Despite strenuous efforts to reduce dropout, retention remains an issue in the UK and internationally (see for example Australian Government, 2017). A number of recent papers have discussed the persistence of retention as an issue and there is a broad consensus that student retention is influenced by multiple interacting factors relating to students, their diverse origins, prior experience, and social, organisational and institutional contexts (see for example Huang et al, 2019; Australian Government, 2017; Holland et al, 2017; Woodfield, 2014, Stoessel at al, 2015; Arhin et al, 2018). The influence of these factors varies between institutions, between disciplines and changes over time. Initiatives that were successful in a particular context may not necessarily be directly replicable.

The great majority of retention studies have been concerned with student retention on campus based undergraduate courses. Gaytan (2015) notes that:

… most student retention models have been designed for the face-to-face classroom learning environment, making it very difficult to apply them to the online learning environment. In essence, the student demographics for online courses are very different from the face-to-face classroom.

However, institutions such as the OU UK have had a strong focus on retention in open and distance learning – (see for example Simpson, 2003; Slade and Prinsloo, 2015). Interest in retention on online courses has grown in the last decade as more universities develop online and distance programmes, and has been boosted by attempts to understand the very high rates of drop out that are typical of Massive Open Online Courses (MOOCs) (Hone and El Said, 2016, Khalil, 2014). A recent paper by Weller et al (2018) focuses on good practice in learning design for online and distance learning and describes seven key design principles for supporting student retention.

While insights from the wider body of retention practice is important in developing good practice in online environments they need to be applied in ways that recognise the multiple contextual factors that impact on retention.

> *… if attrition is to be meaningfully understood and purposefully managed, then the institution needs to implement their student success strategies, policies, and actions with specific social, cultural and organizational context in mind*. (Huang et al., 2019)

So for example Street (2010) found that the applying the Bandura self efficacy model (1997) in an online learning environment has implications that relate the student, their background and environment but also factors specific to studying online:

> *A student's decision whether to drop-out or persist in an online environment influences and is influenced by personal factors such as self-efficacy, self-determination, autonomy, and time management. A student's decision whether to drop-out or persist in an online environment also influences and is influenced by environmental factors such as family support, organizational support, and technical support. A third, unique factor can be added for online attrition. Course factors of relevance and design influence a learner's decision to persist or drop an online course.*

In his research Gaytan (ibid) found that faculty and students have different views on what's important in an online environment. Faculty believes that student self discipline is the key factor influencing retention – students think it's the amount of interaction with faculty. For staff the quality of student-staff interaction ranked second but for students it was meaningful feedback.

Much of the most useful research on retention in online and distance learning that has taken place over the last decade originates from Australia. Stone (2017) has provided an important synthesis of this work in a research report, which provides guidelines for student retention and success in online learning. The guidelines provide detailed suggestions for implementation. They emphasise the importance of designing for online (see also Tobin, 2014) understanding who the students are and valuing teacher presence – note that in the online context this doesn't have to mean 1-1 student tutor interaction. This emphasis on learning design is echoed in Tait (2014) who argues that learning design is the critical factor influencing student retention in digital distance and e-learning and enables student support to be integrated with teaching and assessment.

2) Literature Review – Developments in Practice

Assessment for learning

Recent developments in the theory and practice of assessment are summarised by Perrotta and Whitelock (2017). In a study of the use of assessment on MOOCs, Admiraal et al (2015) found evidence that suggests that self and peer assessment is important and should be constructed as assessment for learning rather than assessment of learning.

Peer support

The advent of MOOCs has provoked new interest in the relevance of peer support to retention and success in online and distance learning. The literature base remains relatively small and although there is sufficient evidence that peer support can be important (de Freitas, Morgan and Gibson, 2015; Hew, 2016; Sutton, 2014); further work that located peer support rigorously in the context of the specific design and pedagogy underpinning opportunities for interaction and peer support is required. For example it's often assumed that small groups are optimal but Baek and Shore (2016) exploring student interaction in a MOOC environment find that engagement and success is correlated with larger group sizes. They conclude that engagement with peers does have a positive impact on retention.

An emphasis on the importance of learning design is one of the key findings of an overview of US literature on online learning. (Franklin, 2015). It concludes that retention is influenced positively by good design practice, by the engagement of staff who have a well-developed understanding of design for learning online and of making use of the peer support that is possible when students are viewed as a cohort rather than as a set of individuals. Similarly a report on the development of informal open courses in the Scotland (Cannell, 2017) suggests that learning design that builds on well developed knowledge of student context and designs in explicit opportunities and encouragement for peer interaction can have a significant impact on retention.

The platform for support and discussion seems to be important. Zheng et al (2016) for example, observe a relationship between group discussion and retention in students enrolled on MOOCs. However, they note that this is more likely to take place via social media than through a MOOC forum and provide some design suggestions for how this might be achieved. Important elements of peer support may take place out of site of academic staff. Timmis (2012), highlights the use of instant messaging conversations to redraw boundaries between informal and formal settings and practices and notes that

> *… peer support practices remain largely invisible and therefore need acknowledging, fostering and encouraging, working alongside students to understand and develop these ideas so that peer support in universities can build on the existing practices of students themselves.*

Learning Analytics

The use of learning analytics to predict outcomes and inform the design of interventions is growing rapidly across higher education. We reviewed the report on the data science project (Remedios, 2016). The project used a definition of retention consistent with that used in full-time face-to-face study. While the definition has the virtue of simplicity it assumes a continuous and linear learning journey. Such an assumption may be valid for full-time distance learning students but fails to capture the complexity of part-time study patterns and is less helpful in understanding student retention and persistence. The data study found that 'Very few of the variables gave a strong separation between the retained/non-retained student groups'. In conclusion it suggested that 'some correlations within the data would suggest that a more granular approach to identifying at risk students would be more effective', it also suggested that 'it would be of significantly more value to work student support and retention touch points into a redesigned student journey, and then support analysis of these via an updated data model.' However, like us it the study did not have access to 'on module' data.

There is a good deal of useful literature that discusses the implementation of learning analytics to support student retention and success (see for example Gilmour et al, 2018). It's important to note that the use of learning analytics is new and immature (Huijser et al, 2016) and Sclater and Mullen (2017) suggest that to date there is limited evidence of this approach leading to improved retention. This is the case in a study of the use of structured interventions and learning analytics at the Open University UK (Slade and Prinsloo, 2015).

Internationally, the most mature practice in the use of learning analytics can be found in the US and Australia. Sclater and Mullin (ibid) note that there are a number of cases of increases in retention (some of these where the implementation is compared with a control group). Typically improvements seem to be of the order of 3-5%. As with retention research many of these studies relate to full-time and campus based students.

In reviewing the adoption of learning analytics by Australian universities Colvin et al (2016) find two distinct approaches. The first of these sees learning analytics as a technical solution that can provide data that informs action. The second sees learning analytics as one part of a more integrated approach to understanding the relationship between pedagogic practice and student learning.

Sclater and Mullen (ibid) note that learning analytics can be used in ways that are simply descriptive – what is happening but not why. This point is emphasised by Zawacki-Richter and Anderson (2014) who suggest that there is a strong case for combining the use of learning analytics with systematic (and contextualised) research into student learning. Further, Prinsloo et al (2015) argue that

> *… from an institutional and pedagogical perspective, an understanding of what drives student learning and success will remain key. Institutional researchers must balance the "what" provided by the patterns in data with the "why" which require more in-depth investigation through traditional research approaches.*

The algorithms underpinning learning analytics are based on assumptions about student learning that are sometimes implicit and not always well grounded. Naughton (2018) in a summary of an emerging on machine learning cautions against this approach, arguing that to provide valid results the power of big data needs to rest on well researched, well understood and explicit assumptions.

The first year

From a retention perspective there are good reasons for focusing on the first year of undergraduate programmes. Understanding and supporting transitions represents a major part of retention research and practice. So for example since 2003 when the QAA Enhancement themes programmes in Scotland began – there have been two three year programmes looking at this area (The First Year 2005-2007 and Student Transitions 2014-2017). Outputs from these programmes can be found at www.enhancementthemes.co.uk . The definition of enhancement used by the Teaching Excellence Framework and by the Scottish Funding Council explicitly defines retention as the proportion of first year undergraduates progressing to year two. While this definition has the virtue of simplicity it is inadequate to capture the complexity of student progress through flexible learning programmes – face to face or distance.

Ormond Simpson's (ibid) work at the OU UK recognises the vulnerability of students making the transition into higher education or into a new mode of study. Subsequent success depends on making a good start (see for example Simons et al, 2018). There is relatively little literature that looks specifically at open and distance learning although Arhin et al (2018) found in their own and other studies that orientation programmes are statistically significant predictors of retention in distance learning. Ding and Stapleton (2015) look at how the use of a familiar social networking platform supports transition into the first year of study while Jackson (2012) also notes the importance of social support networks for first year transitions.

Technology provides opportunities for widening support mechanisms and even to be adaptive to individual student needs, provided we have clear clues to detect risk of dropout within the online teaching process. Experiences from the analytics4Action at the OU highlighted the potential of predictive analytics to guide tutors and engage with managing student motivation by building a strategic insight.

Sanchez (2018) highlights the gap in our understanding of the impact of drop out from online learning and the increased risk of depression and unemployment. The scope of understanding retention within the online learning context requires wider consideration beyond the course design and academic support and include a range of non academic student adaptive support mechanisms.

3) Discussion and Recommendations

Student retention is highly contextual and contingent on institutional and student aims, expectations and conceptions of how 'success' is defined. As a result improving retention is a dynamic issue with parameters that evolve over time. This study considered retention through the broad frame of annual progression data. Nevertheless, our findings suggest that interventions at key annual transition points might have significant impact on retention rates.

The literature review suggests that further work on retention should be informed by a focus on student characteristics, experience and barriers to engagement with their programmes. Learning analytics provide a useful tool for supporting retention but they are not a magic bullet. Without qualitative data derived from rigorous, student focused, pedagogical research, learning analytics may not help at all. Combining qualitative and quantitative data to inform learning design is a necessary step in the development of robust predictive analytical models.

On the basis of our study we suggest that it would be useful for programme teams to reflect on the first year of study. It is here that potentially the biggest impact can be made on student retention. In the appendix we provide some questions that might frame this process. How much is already known about the student experience of registration, preparation and induction? From our limited research there seems to be very little difference between programmes. Is this generally true across all programmes or is there existing practice that is effective and could be adopted more widely? Is qualitative data already available? If not some evaluative work aimed at developing insights into the student experience would be invaluable.

4) Appendix

Questions for reflection on retention in the first year of study.

1. How do you understand the pre study phase to work in terms of information and guidance? Who is responsible? Who does what?

2. What links are there between those working in the pre study phase and the first module? Is there any shared information via an LMS?

3. Why do students register and not study until a later presentation? Why do you think some registrants do not proceed to study? Do you have data or evidence about this?

4. Do you examine prior educational qualifications of new intending students, and advise or intervene in a targeted way?

5. Is there any induction process for new students? What advice is given about workload?

6. Is there an intervention strategy based on student progress information for independent students? If so, what data prompts interventions? Is there a Learning Analytics system?

7. What links if any related to retention and progression are there between programme and central University of London staff?

8. When are retention data for a module produced and by whom? When are they considered and what action is taken, if any?

9. Do you have progression data, that is data concerning the flow of students from one module to the next? Do you have graduation data? Does all this get managed through the Annual Programme Review meeting?

10. Do you have continuous assessment - that is to say weekly and mid point -as well as final assessment? If so, what feedback and support do students receive? What form does the final assessment take, and do you support students to take it?

11. What thoughts do you have about how best to define retention for part-time students whose study trajectories are very often non-linear?

12. Is there provision for peer or social interaction for students? Is it well used? Is it facilitated or supported? Do you have any evidence that students are setting up their own self help or discussion groups on social media?

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