Is co-curricular engagement the key to success for ‘hard to reach’ students at the University of Exeter?

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Introduction

The approximate number of students entering into full-time study in Higher Education (HE) in the UK every year is 380,000 (Diamond et al., 2015). Of these, 83,000 (22%) drop out of their degree before completion, with 27,000 (7.2%) withdrawing before the second year (HESA 2013). There is large variation in withdrawal rates between different universities, as well as between demographic sub-groups (Thomas, 2002). For example, during the 2013/14 academic year, 100 students (2.3%) did not continue to their second year at the University of Exeter; this can be contrasted with the 685 students (20.6%) who dropped out after their first year at London Metropolitan University, an institution with similar student numbers to Exeter. Exeter’s figure is one of the lowest in the UK, thereby acting as a useful benchmark for comparison. These two universities, both core partners in the REACT project, represent opposite ends of a spectrum of league tables and their student bodies’ diversity.

An example of a demographic sub-group with a higher first-year withdrawal rate than the average, is ‘students from non-traditional schools’ (Borgen and Borgen, 2015). These students often come from varied, disadvantaged backgrounds that, along with a multitude of other factors, mean that they are at a higher risk of withdrawing. Two factors - university and student demographic sub-groups (ethnic minority, disabled etc.) - are highly related, as every university has a unique composition of students. Thus, for retention, focusing on particular groups is key, allowing comparisons of student success, along with examples of best practice of student engagement, between differing ‘types’ of universities (Mountford-Zimdars et al., 2016).

Alongside retention, attainment is the most common way to measure a student’s (and the overall University’s) success. The percentage of UK students completing their first degree with a first class or upper second class honours has increased by 2% each year from 2010/2011 – 2014/2015 (2010-11, 64%; 2011-12, 66%; 2012-13, 68%; 2013-14, 70%; 2014-15, 72%); (HESA 2016). There are many reasons for this, but the crucial aspect to investigate, as with retention, is whether this positive trend is seen equally for all demographic sub-groups. A general improvement from a disparate baseline of attainment among different types of students presents a very different challenge to universities than if it were found that the attainment gap was increasing between different subgroups, i.e. increasing inequality of attainment between groups.

This is where the term ‘hard to reach’ becomes appropriate. There are specific groups of students, such as those from a low socio-economic background (Low SEC) and ethnic minorities, that do seem to have lower levels of academic success across the sector, but it is impossible to identify all characteristics of students that may indicate a disadvantage (Richardson 2008; McClelland et al., 2015). It has been stressed above that being specific is paramount, and the term ‘hard to reach’ is not intended to group a highly diverse set of students together for the aim of guiding a one-size-fits-all approach to increasing student success. Instead, it provides a term to incorporate any characteristic that might lead to a disadvantage in order to encourage better inclusivity.

As well as referring to students not achieving their full academic potential, ‘hard to reach’ addresses those who do not engage during their time at university, whether in curricular, co-curricular or broader activity such as sport or societies. Whereas attainment, retention and DLHE scores are the usual formal measures of student success, engagement could be
considered the means by which students achieve this success (Stuart et al, 2011). Engagement has been shown to provide significant benefits to students, contributing to an increased sense of belonging and other key factors that help students to settle and enjoy their studies (Zepke 2013). Such benefits are also thought to improve academic success (Krause and Coates, 2008). On the other hand, there are also fears that engagement could have unpredictable effects: could a highly-engaged student, who is involved with a wide range of extra-curricular activities, have less time to commit to studying, thereby negatively impacting her/his results? Hence an exploration of certain groups with lower retention rates than the wider cohort is crucial, especially if such students do not in fact have a lower potential, but, instead, are not realising their potential.

**Selection of co-curricular activities and ‘hard to reach’ groups for exploration**

In order to resolve some of these questions, this study explores the link between high levels of student engagement and their academic success. Four co-curricular activities (CCAs) at the University of Exeter were selected as examples of schemes that enable students to get closely involved with the university and with their fellow students.

- Change Agents offers any student the opportunity to implement academic change on campus, with the process including the research into a problem, the implementation of a proposed solution with the support of staff and then evaluation of the project’s impact. This scheme has been running at Exeter for nearly a decade and has influenced large numbers of similar initiatives at other institutions, nationally and globally.
- Peer Support was selected because engagement focuses on the learning and teaching aspects of university life. Only Peer Mentors (rather than the Mentees) were included in the study, as, by taking on this role, such students have demonstrated high levels of commitment to the scheme and are actively involved in supporting other students.
- Grand Challenges is an employability-orientated scheme, wherein undergraduates work in multi-disciplinary groups on a topic such as ‘Global Security’ during a week at the end of the academic year. Groups of students, assisted by external experts, produce a film, presentation or other media to address a topical issue.
- Student Representatives are well known to be instrumental in making improvements in the teaching and learning environment at universities and thus serve as a good example of ‘highly-engaged’ students.

The three specific sub-categories of ‘hard to reach’ investigated for this study were: ethnic minority, lower-performing school (LP School) and low socio-economic class. These were evenly populated categories that are widely regarded as disadvantaged (Singleton 2010).

**Key research questions and definitions**

The effect of engagement on student success was explored for all students at the university, as well as seeing whether any effects were consistent between ‘hard to reach’ and ‘not-hard to reach’ students, and within ‘sub-categories of ‘hard to reach’ students. Levels of engagement with each co-curricular activity were also explored. The aim of REACT is to produce case studies of student engagement and this study provides the opportunity to consider whether certain groups prefer particular forms of engagement (see Dunne et al in this issue for more information on the REACT project). Furthermore, although the term ‘hard to reach’ implies that these students are less engaged than the wider cohort, this is not necessarily the case and so this also is investigated. The three key research questions are as follows:

- Do students who participate in co-curricular schemes have better: attainment, retention and DLHE outcomes?
- Are ‘hard to reach’ and ‘not hard to reach’ students equally engaged?
Theme 3: Retention and Attainment

- Do ‘hard to reach’ and ‘not hard to reach’ students both benefit from engaging?

The following definitions are consistent throughout this paper but apply only in this context.

- ‘Hard to reach’ – students from any of the three specified sub-groups;
- Ethnic Minority – students classified by Exeter as having a minority ethnicity status;
- LP Schools – schools which ranked in the lowest 40% of school league tables in that academic year;
- Low SEC – students classified as being from a low socio-economic class, using categories 4-7 defined by HESA;
- ‘Highly-engaged’ or ‘engaged’ – students who participated with a co-curricular activity (CCA);
- Retention – applies to the proportion of students completing their degree;
- Attainment – the proportion of students achieving ‘Good’ Honours (1st and 2:1 degree classifications);
- Positive DLHE scores – proportions of students reporting positive post-graduation destinations (graduate employment and further study).

Methodology

Data Collection
The dataset used for analysis was acquired through Exeter’s Planning department and strict rules relating to anonymity were followed. Student identity numbers of those who had participated in the four CCAs were given directly to the Planning department from the respective CCA managers; Planning then collated the dataset, adding engagement to the success criteria and ‘hard to reach’ groups. The completed dataset was then available for analysis. Multiple face-to-face meetings with the Planning department took place to discuss the appropriate use of data, accuracy of results and intended external publications. Two meetings between the researcher, REACT representatives and Exeter’s Ethics department also took place to discuss the use of data pertaining to specific groups of students, such as ethnic minorities.

Data Summaries and Limitations
Table 1 shows the breakdown of the dataset. It is important to note that (in this study and broader studies) a student often belongs to more than one ‘hard to reach’ group. For example, a student could have a lower achieving academic background as well as be from an ethnic minority. For the initial analysis and in later figures however, ‘hard to reach’ students are counted only once. However, the totals for students in each ‘hard to reach’ group are used for analysis, so comparison of the three groups used is possible. The dataset is sufficiently large to protect against the loss of anonymity upon drilling down into smaller groups. The three sub-categories of ‘hard to reach’ conform to standard Exeter definitions.

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>‘Hard to Reach’</th>
<th>Ethnic Minority</th>
<th>LP School</th>
<th>Low SEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>36,095</td>
<td>10,438</td>
<td>4397</td>
<td>3147</td>
<td>4358</td>
</tr>
<tr>
<td>Engaged</td>
<td>2861</td>
<td>992</td>
<td>422</td>
<td>406</td>
<td>337</td>
</tr>
</tbody>
</table>

Table 1. Sample sizes of ‘hard to reach’ groups for engaged and not-engaged students. ‘Hard to reach’ totals do not equal the three sub-groups added together as overlap was controlled for.

The four CCAs have different start dates, affecting the longitudinal and overall engagement rates. However, this reflects the nature of the study and it would be detrimental to compare data only from 2012/13, when all CCAs are active. The number of students participating in each scheme also varies, with Grand Challenges contributing the most to the dataset (Table 2).
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Table 2. Sample sizes of students participating in each CCA, Years of CCA inceptions

<table>
<thead>
<tr>
<th>Year Initiated</th>
<th>Grand Challenges</th>
<th>Change Agents</th>
<th>Peer Support</th>
<th>Representatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/13</td>
<td>08/09</td>
<td>10/11</td>
<td>08/09</td>
<td>1710</td>
</tr>
<tr>
<td>08/09</td>
<td>220</td>
<td>306</td>
<td>625</td>
<td></td>
</tr>
</tbody>
</table>

A more balanced contribution would have made the analysis statistically more robust, but the numbers are of satisfactory volume to be valid for comparison. During the data-collection process it transpired that records for the schemes were imperfect. Some students were missing from lists, whilst some were included who might not have completed their projects. As these missing data are random, there is no reason to assume an omission bias that could skew results. Engagement with a CCA in the analysis was binary. Although a minority of students participated in more than one CCA, they were put in one group or another to eliminate repeats. This was done by allocating them into the most recent scheme that they were involved with.

Data for each of the three success criteria were not available for all students and so sample sizes for each test were different, but sufficiently large to have no adverse impact on analyses.

The calculation formulae were provided by the University Planning department (Table 3). ‘good’ Honours was defined as 1st and 2:1; retention rates included only those who withdrew completely from the University; the DLHE calculation relied on HESA’s definitions of ‘Positive’ (graduate employment or Postgrad study) and ‘Negative’ (unemployed, unprofessional work), with other results excluded (such as travelling).

Table 3. Sample sizes of student success criteria; basic calculations for each measurement

<table>
<thead>
<tr>
<th>Calculation</th>
<th>Attainment</th>
<th>Retention</th>
<th>DLHE</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1st + 2:1)</td>
<td>Withdrawn</td>
<td>Positive</td>
<td>(Positive + Negative)</td>
</tr>
<tr>
<td>Total</td>
<td>20,520</td>
<td>36,095</td>
<td>9,805</td>
</tr>
</tbody>
</table>

Data analysis

Only data (provided by Planning) from 08/09 and subsequent years to 15/16 were used for analysis - the imbalance of demographic and administrative data related to years prior to that would have skewed results and, in any case, CCA engagement began to be recorded only from that academic year. Throughout this paper, academic years refer to the year a student began her/his degree, not to all students during that particular year. This is crucial when considering engagement proportions. This study includes data up to and including 15/16, which means that students starting in 14/15 and 15/16 had not completed their time at Exeter at the time of this study and had not had the full opportunity to engage. This will have caused a slight under-representation of engagement, although enough years were included to minimise this effect. DLHE results were also not available for these students.

As raw data was not available for this research, owing to Data Protection and Ethics procedures, no tests for statistical significances could be carried out. This does reduce the power of the study, as at no point can it be definitively said that one group is proven to be different from another, but the results can be taken at face value and powerful trends can nonetheless be seen. Throughout the paper, results and charts will refer to differences of percentages between groups. Without significance testing, there is always the possibility that
these differences occur by chance, but the impressively large sample sizes for this type of study minimise these risks.

Results

Engagement with co-curricular activities by ‘hard to reach’ groups

Since 2008, the numbers of students who could be categorised as ‘hard to reach’ at Exeter have increased steadily, totalling almost 40% in the 15/16 academic year (Figure 1). Over this period of time, the three selected ‘hard to reach’ categories: Ethnic Minority, LP School and Low SEC have relatively even contributions to the total ‘hard to reach’ populations (Table 4). This is conducive to the analysis undertaken for this study, as it allows for useful comparisons between these three very different characteristics. Mirroring the positive trend of ‘hard to reach’ participation at Exeter, the proportion of students engaged with one or more of the four CCAs reached a high of around 17% in 13/14 (the last year of complete engagement data; see Methods). Vitally, this encouraging increase is seen for ‘hard to reach’ students as well as for the wider cohort. The percentage increases in numbers of engaged students naturally follow the introduction of each of the CCAs, with the largest jump coinciding with the inception of Grand Challenges (the CCA that had the most students participating).

<table>
<thead>
<tr>
<th>All</th>
<th>‘Hard to Reach’</th>
<th>Ethnic Minority</th>
<th>LP School</th>
<th>Low SEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.93</td>
<td>9.50</td>
<td>9.60</td>
<td>12.90</td>
<td>7.73</td>
</tr>
<tr>
<td>36095</td>
<td>10438</td>
<td>4397</td>
<td>3147</td>
<td>4358</td>
</tr>
</tbody>
</table>

Table 4. Proportion of engagement for ‘hard to reach’ groups and the wider cohort

The reasoning for choosing the three particular ‘hard to reach’ categories was that they were anticipated to be less engaged than the norm and therefore might be expected to benefit the most from becoming engaged. However, it seems that taken as a complete group, the ‘hard to reach’ students participated in the CCAs more than the wider cohort (Table 4). For all of the students whose data was used in this research, roughly 8% had been involved with a CCA. This is encouraging, given that the four schemes all require high levels of engagement and were introduced in successive years. In 2013/14, nearly a fifth of the entire student body was engaged in a CCA.
Of course, stating only that ‘hard to reach’ students are engaged with one or more CCA is not specific enough to be pragmatically useful. It is much more enlightening to see the split of the three ‘hard to reach’ characteristics for each CCA. Overall, Table 4 shows that whilst Low SEC students’ engagement was on par with the wider cohort at around 8%, 9.6% of Ethnic Minority students were engaged compared to 12.9% of students from LP Schools. Figure 2 shows both the contribution of ‘hard to reach’ students participating in each CCA as well as the breakdowns for each ‘hard to reach’ sub-category. Both of these are important as, even though a scheme may attract a high proportion of ‘hard to reach’ students, it may be attracting one type of student above another type. This is not necessarily detrimental as long as the university offers a wide variety of engagement opportunities that together appeal to students from different backgrounds.

![Figure 1](image1.png)

**Figure 1.** The proportion of engaged and ‘hard to reach’ students at Exeter from 08/09. Engaged ‘hard to reach’ line means the proportion of ‘hard to reach’ students who were engaged. Dotted lines show the predicted proportions, extrapolated from one or two years of data, in order to scale up to a whole student life cycle. The four CCA logos indicate when each scheme began.

![Figure 2](image2.png)

**Figure 2.** The proportions of each ‘hard to reach’ sub-category participating in CCAs

At a glance, it seems that the Change Agent scheme is the least inclusive of the CCAs, with just shy of 30% of participants being from a ‘hard to reach’ group (Figure 2). However, two caveats must be kept in mind: first, that this is still equal to the overall proportion of ‘hard to reach’ students and second, that these schemes are not selective but offer benefits to all students. A new scheme set up specifically to attract ‘hard to reach’ students would aim to have a higher proportion of such students than the wider cohort, but for the existing CCAs at Exeter the results suggest inclusivity. Furthermore, the least engaged ‘hard to reach’ group in the study (Low SEC) are the most populous group in Change Agents. And, although differences are smaller, Grand Challenges has the highest proportion of Ethnic Minority students, whilst LP school students preferred Reps and Peer Support. These findings suggest how there is something for everyone and that one size does not fit all, but that a university should endeavour to offer a variety of schemes in order to encourage all types of students to engage in ways best suited to them.

**The effect of engagement on student success for ‘hard to reach’ students**
Theme 3: Retention and Attainment

Engaging in extra-curricular activities can have many benefits for a student. Being more involved at University by joining societies, sport clubs and CCAs can improve a student’s sense of belonging, her/his wellbeing, employability and overall satisfaction. However, is there potential for student engagement to detract from time spent studying and therefore have a negative impact upon student success? There are two key questions that need to be asked:

- Is there a positive or negative link (if any) between highly-engaged students and their academic success?
- Is any link between highly-engaged students and academic success consistent for different types of students?

The three main measures of student success are: attainment of Good Honours, high retention rates and positive DLHE scores. Figures 3, 4 and 5 show the success of ‘hard to reach’ and ‘not-hard to reach’ students, split by those who took part in a CCA and those who did not. Variances between groups have not been tested for significant differences (see Methods) and so, although these results can be taken at face value, trends are implied rather than empirically demonstrated.

![Figure 3. Percentage of students achieving a 1st or 2.1, grouped by ‘hard to reach’ and engagement](image)

Broadly speaking, the two questions have been answered along with evidencing the expected importance of engaging ‘hard to reach’ students. For attainment and retention, ‘hard to reach’ students perform slightly less well than those categorised as ‘not-hard to reach’ (Figures 3 and 4). But, it is important to point out that at Exeter, ‘hard to reach’ students (engaged or otherwise) still perform very well compared to the sector. Interestingly, ‘hard to reach’ students do have a higher rate of positive DLHE scores (Figure 5); the reasons behind this will be addressed in the final discussion, but this finding highlights that ‘hard to reach’ students do not categorically perform less well, but just that they are successful in a different way.
For all three success criteria and for both ‘hard to reach’ and ‘not-hard to reach’ groups, those who were engaged did better. The Discussion section will tease apart why this is the case and discuss the causation/correlation argument, but it must be reassuring that engagement and student success are positively linked. The results are most striking for retention: withdrawal rates are 2.49% and 1.83% for ‘hard to reach’ and ‘not-hard to reach’ respectively but drop to 0.40% and 0.27% for the ‘highly-engaged’ (Figure 4). Such an improvement is commendable as Exeter’s withdrawal rates are already very low and to have less than 0.5% of all students not completing their degree is outstanding. One other statistic that reflects extremely well on Exeter is that almost 95% of students who are not ‘hard to reach’ are involved with a CCA also achieve Good Honours.

In the context of this University, engagement seems to be a leveller, minimising the difference between those who have been categorised as ‘hard to reach’ and ‘not hard to
Theme 3: Retention and Attainment

There is an 8% difference in ‘good’ Honours attainment between ‘hard to reach’ and not ‘hard to reach’ for not-engaged students, compared to only a 5% difference for engaged students. This indicates not only that all students benefit from engaging in co-curricular activity but also that what a student does at university is more important than how a student is classified upon entry (Kuh 2003).

As with the engagement analysis, comparing ‘hard to reach’ with not ‘hard to reach’ can only explain so much. Figures 6, 7 and 8 again show the benefits of engaging in terms of the success criteria, but ‘hard to reach’ is broken into its three sub-categories. For every group, engagement is linked to increased success, but there are two crucial trends between and within the characteristics that have important implications. There is actually a larger difference in withdrawal rates between the three ‘hard to reach’ characteristics than between ‘hard to reach’ and ‘not hard to reach’ (0.7% between not-engaged ‘hard to reach’ and ‘not hard to reach’; 1.3% between not-engaged Ethnic Minority and Low SEC; Figure 7). This highlights the importance of considering each type of student individually rather than grouping students with very different backgrounds under one label.

![Figure 6](image1.png)

**Figure 6.** The percentage of students graduating with a 1st or 2:1 between 08/09 and 15/16, split into three ‘hard to reach’ sub-categories and compared between engaged and not engaged

![Figure 7](image2.png)

**Figure 7.** The percentage of students who withdrew from the University, split into three ‘hard to reach’ sub-categories and compared between engaged and not engaged
Comparing the success of the three ‘hard to reach’ sub-categories, one is not consistently ‘better’ than another. It might be expected that those who achieve the best grades also have the best retention and DLHE scores but this is not the case for Minority Ethnic students (Figure 6). Compared to the other two groups (for engaged and not engaged) Ethnic Minority students are less likely to achieve Good Honours and more likely to withdraw, but, counterintuitively, more likely to have a positive DLHE score (Figure 8). This is difficult to interpret as there may be many more variables and more context is needed, but, as above, differences are smaller between the three groups for engaged students. This confirms the assertions that a student’s potential is not defined by her/his demographic classification and also that engaging helps students to reach their potential.

Discussion and Conclusions

The findings in this paper have expanded on the meaning of ‘hard to reach’ by investigating crucial, but as yet unproven, direct links between engagement in co-curricular activities and student success. The four clearest findings of this study are:

1) Students assumed to be ‘hard to reach’, both at this University and beyond, are not actually the less-engaged or the ‘hard to reach’;
2) The ‘hard to reach’ term as a whole has restricted use unless it is broken down into sub-categories;
3) Proportionally, engaged students perform better than their disengaged counterparts;
4) ‘Hard to reach’ students do not categorically have lower levels of success;

To expand on these points, we should ask: what does ‘hard to reach’ mean at Exeter? If the group as a whole does not always perform less well than the wider cohort and has actually been shown to be more likely to engage, is the term appropriate? If it is, then who actually are the ‘hard to reach’? The term ‘hard to reach’ does have some merit, and its ambiguity actually may be a strength rather than a weakness as it shows that there is not a simple definition. Fortunately, it suggests that a student’s success is not determined by her/his demographic characteristics alone. For each one of the success criteria, there is a greater difference between those students who did and did not participate in a CCA than between the three ‘hard to reach’ groups. Furthermore, there is much overlap between the success of ‘hard to reach’ and not ‘hard to reach’ owing to students’ being engaged. The most prominent example of this is for retention: only 0.4% of engaged ‘hard to reach’ students withdrew from the University compared to 1.83% of students not classified as ‘hard to reach’ who did not participate in a CCA. All of these points reinforce the point that all types of students have equal potential for success and that engagement can be one of the means to help them achieve it.

Breaking down ‘hard to reach’ into the three sub-categories was useful, but further research should examine additional sub-groups such as mature or disabled students, postgraduates or specific groups of international students (Smith 2008). There were clear differences amongst the three selected groups between the success criteria as well as between which CCA they chose. These findings could provide pragmatic advice for new CCA schemes. For example, Change Agents requires a high level of commitment and independence which may explain why it had the lowest overall proportion of ‘hard to reach’ students, but, the scheme attracted by far the highest proportion of Low SEC students. This study does not provide enough context or data to explain why students in this particular group prefer Change Agents, but the scheme management can benefit from this knowledge, and other universities which may wish to set up an initiative geared towards this type of student have an example to follow through this case study. As Figure 1 shows, engagement for ‘hard to reach’ and the wider cohort has steadily increased with the introduction of the four CCAs. And, seeing that the three sub-groups are represented quite equally in the CCAs compared to the wider cohort, it can be asserted that together the four CCAs offer inclusive engagement opportunities to all students at Exeter.

Overall, this study has shown the benefits of Student Engagement to all types of students and to the University itself. There are many more forms of engagement to be studied as each activity may attract a diverse group of students as well as having differing levels of cross-over and impact on the academic success of students. However, the four forms of engagement chosen for this study represent high levels of engagement and so the fact that these students displayed higher levels of success allays the fears that participating could distract students from their course. Rather, being more involved with the University and fellow students has negated the assumed disadvantages that so-called ‘hard to reach’ groups may have. This finding is noteworthy and should be of substantial interest to all universities. An eclectic mix of co-curricular activities should be offered to students during their time at university, attracting all students and helping each individual to reach her/his academic potential.

Reference list


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Theme 3: Retention and Attainment


1 1st and 2.1 are the two highest achievable grade in UK higher education