National HE STEM Programme

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STEMMING THE DOUBTS

Enhanced transition and induction to HE STEM programmes.




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Contents

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Ed's work is all about helping students to become effective learners in HE through the provision of a broad range of interventions. He heads up the Learning Development Team at NTU leading a team of staff and student mentors co-ordinating NTU's Welcome Week programme and jointly leads the development of institutional induction strategy. The findings from the HERE project directly led to the creation of an extended academic tutorial programme for all new first year students at NTU. Ed's research interests are in US models of the first year experience.

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Sarah is part of the Learning Development Team at NTU. She has experience of undertaking research into the student experience of transition to the first year of HE. This research informs the work the Learning Development Team does to support staff and students at NTU. Her work includes involvement in the NTU Welcome Week, she co-ordinates the annual Student Writing and Transition Symposium, and develops resources and staff workshops in the areas of induction, transition and retention.

Other Contributors

We are grateful to the project leads and teams of other STEM projects and projects from the What Works: Student Success and Retention programme for generously agreeing for examples of their work to be included in the development of this guide. If you wish to undertake further reading around this area, there is a bibliography at the end of the guide.

Published by
The National HE STEM Programme
University of Birmingham
Edgbaston
Birmingham
B15 2TT
www.hestem.ac.uk / www.hestem-mea.org.uk

National HE STEM Programme

UNIVERSITY OF BIRMINGHAM

Foreword

I am delighted to introduce to you this suite of transition and retention guides which have been produced under the National HE STEM Programme.

While increasing the supply of students to STEM Higher Education is important, ensuring that they experience a smooth transition to university and that as many as possible complete their studies successfully is of equal importance. There is a wealth of initiatives in this area that have reported on effective practice to help achieve this. The purpose of the guides is to collect and present effective practice models specifically from STEM departments. An important feature of this suite is the student perspective, which the authors have emphasised.

The issues related to induction, transition and retention are multi-faceted and therefore may have been addressed in slightly different ways in the different guides to take account of the specific context.

The suite consists of eight guides:

- Using data: an evidence-based approach to improving transition, induction and retention
- Happy landings – an introductory guide for students considering studying a STEM subject in Higher education
- STEMming the doubts – enhanced transition and induction to HE programmes
- Critical moments in the first year at university – towards a framework for effective transition
- Promoting social engagement: Improving STEM student transition, retention and success in higher education
- Improving retention: the curriculum development perspective
- Setting up a Maths Support Centre
- Optimising the part-time experience

My thanks go to the authors of the guides for distilling their knowledge and expertise and to the Steering Group for their valuable guidance. The group consisted of Professor Liz Thomas, Director for Widening Participation Research Centre (Edge Hill University), Hal Igarashi, Project Director Employer Engagement (Royal Academy of Engineering), Henriette Harnisch, Director of Academies and Trusts (University of Wolverhampton), Fiona Lamb, Associate Director (Engineering Education Centre), Ed Stevens, Regional Officer for Widening Participation and Outreach (South West) and Sadaf Alvi, Regional Officer for Higher Level Skills (Midlands and East HE STEM Anglia regional spoke).

Our collective hope is that the wealth of case studies and the student perspective presented will stimulate colleagues to consider improvements to the transition processes where they find it appropriate for their institution.

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Introduction

This guide offers STEM programme teams the opportunity to work through a series of key themes in order to evaluate their provision of transition and induction support to first year undergraduate students. The nine themes derive from work on the Higher Education Retention and Engagement (HERE) project (**www.hereproject.org.uk**) which investigated a) factors that influenced students with doubts about being at university to stay and b) good practice of academic programmes with the highest retention rates.

The term 'doubter' as used here describes students with doubts strong enough to make them consider withdrawing from University. Doubters, as may be expected, are more likely to withdraw early (HERE 2011) but even those who persist are more likely to report a poorer quality learning experience, specifically:

- a less satisfactory academic experience
- lower levels of understanding about the differences between FE and HE
- lower levels of academic confidence
- being more likely to be working 'very hard' or 'not very hard at all'
- More likely to be struggling with their studies and less confident about asking for help (although in the event, were more likely to ask for it)
- less likely to be enjoying their studies

Within this guide there are also examples drawn from a number of HE STEM projects focusing on specific STEM disciplines, including the HE STEM South West project entitled: 'Exploration and enhancement of transition and induction experiences of students starting on HE STEM programmes in the SW region' www.hestem-sw.org.uk/project?id=9

An interesting finding from the STEM SW project, was that:

- students studying STEM subjects may be more goal oriented than others

and a key recommendation would therefore be:

- signpost more clearly the linkages between first year work and future aspirations in order to support students over what were termed as the 'more bumpy bits' of the first year

The HE STEM SW project and the HERE project both identified the need to reduce student doubting and increase their staying. Links to more information about both projects, and, information about other HE STEM projects that informed this guide can be found in the bibliography.

There HERE Project is one of seven funded by the Higher Education Funding Council for England and the Paul Hamlyn Foundation. It was a collaborative three year project involving Nottingham Trent University, Bournemouth University and the University of Bradford.

Background

The National Audit Office (NAO) report 'Staying the Course' (2007:21) stated 'When science, technology, engineering and mathematics students are considered together, they are less likely to continue to a second year of study than students following other subjects.'
In order to improve retention HE STEM SW project aimed to

- explore examples of good practice both within the SW region and the sector
- learn from the experience of STEM ambassadors
- explore research informed approaches around pre-entry guidance, transition support, induction activities, and continued support over the first year of HE STEM programmes
- develop a network within the region for sharing ideas, information and good practice in the area of transition and induction

The Student Perspective

Much of the evidence that informed the HE STEM SW project, emerged from research undertaken on the HERE project which included 7 large scale surveys of first year students conducted across three UK HEIs and spanning two entry cohorts (2009, 2011). The surveys explored students' experiences at university and the factors associated with doubting. We also interviewed 67 students individually or in focus groups, and, where permission was given, we tracked the progression of respondents to test the impact of doubting on retention. Students who experienced doubts were the most likely to leave university. However, we found that most doubters do not become leavers, and the project revealed many of the factors that explain this which are explored in this guide through nine core themes. Alongside this, we are also drawing on outcomes of the National HE STEM SW Programme's 'Transition to HE project', including a study in which Meet the Scientist and STEM Ambassadors offered their insights and experience into the perceptions of young people about the world of science.

The Strategic Fit

Currently, the first year experience is receiving considerable attention. UK HEIs who wish to charge more than £6,000 tuition fees are required to demonstrate through the Office for Fair Access Agreements the measures that they intend to put in place to support access to HE. The White Paper, 'Putting Students at the heart of higher education' (2011) and the Browne Review (2010) of England's higher education system both attach the highest priority to the student experience, including quality of teaching. The National Union of Students Charter on Academic support (2012) specifically identifies research from the HERE project and others in the 'What Works? Student Retention and Success' programme as exemplars of excellent practice in student support.

This guide therefore aims to provide HEIs and programme teams with a framework that can be used as a self audit tool to ensure that the strategic imperatives for supporting students into, and through, their first

undergraduate year, are identified and understood. Implementation is supported through the provision of a background and overview of our research, recommendations and some top tips.

Challenges and reflection

The key drivers identified above pose challenges in terms of driving institutional change in thinking about and implementing effective student experience policies around the area of transition and induction to HE. Some of these challenges include: developing effective communications; the provision of appropriate and effective pre-induction developmental transition materials; provision of a first year student focused learning and teaching strategy; the development of assessment that supports learning; and the use of virtual learning environments. Personalising the first year experience can be problematic where there are large cohorts; providing effective one-to-one or small group tutoring can be difficult to manage.

This guide provides an opportunity to reflect on themes that emerged during the HERE project around first year experience in order to help make the process more manageable along with top tips that have worked for others in similar situations.

Introduction to the Toolkit

The HERE toolkit (www.hereproject.org.uk/) is a resource developed for programme teams to review their own retention practices. Each of these nine key themes (see below) contains a set of suggested actions which arise from:

- data gathered during the HERE project from students, tutors, and programme documentation
- data gathered for the HE STEM SW Transition to HE project
- the retention and engagement literature
- the experience of the HERE Project team working with first year students in a range of roles

The recommendations are an opportunity for reflection on the themes and issues and provide a research and evidence base for implementing or influencing change with some suggested actions as starting points. We hope that they will provide a research-based starting point for implementing or influencing change within your particular context.

Nine themes

The nine themes that emerged from analysis of the HERE project were used to inform the work of the National HE STEM SW transition project. These are:

1. Identify and respond to students at risk
2. Help students to make the transition to being effective learners at university
3. Improve the relationship and communication with staff
4. Help students make more informed decisions about choosing the right course in the first place
5. Improve social integration
6. Improve a sense of belonging to the programme
7. Foster motivation and help students understand how the programme can help achieve their future goals
8. Encourage students' active engagement with the curriculum
9. Ensure that there is good communication and access to additional student support

The thematic approach enables you to identify areas in which you wish to effect change in your own context. Each theme provides a series of evidence based recommendations and suggested actions. Links to full details of the research methodologies of the HERE project and the National HE STEM SW transition project are available in the bibliography.

Theme one
Identify and respond to students at risk

Background
The 2007 NAO report found that some student groups were more likely to leave than others. These included students on some STEM subjects. There is extensive literature (Kuh et al 2008; Tinto 2007, 2006, 1993; Pascarella 1985; Astin 1993) that examines student persistence, engagement and integration. Thomas (2002), Quinn et al (2005) also discuss problems students may have in interpreting an institution's underlying environment.

Our research
HERE research notes that whilst some groups are more at risk of withdrawing early, much can be done to support students to stay by creating a learning experience appropriate to their needs. One thing common to many of the programmes in the HERE study was their understanding of the issues that affected their students' retention, they knew their students personally and had put in place strategies to respond to students' needs. Another factor was understanding the needs of particular groups of students, for example, commuting students, mature students and those from a widening participation background.

Recommendation:
Understand more about students at risk of withdrawing early

Using Formal data
Yorke (2006, p208) notes that institutional data can be difficult to use effectively: *'Experience suggests that data gathered to fulfil quality assurance obligations are not always exploited optimally for the purposes of quality enhancement: in other words, the 'quality loop' is not always closed'.* In two of the HERE project case studies the programme teams were part of an initiative developed to better exploit student records for retention management purposes. Furthermore one programme also kept additional information about student withdrawal gathered within the team to give a more complete picture to inform ongoing discussion about student withdrawal.

Suggested actions
- Review how institutional retention data is processed
  - Does it provide data useful for programme level retention management purposes?
  - If not what else needs to take place?
- Ensure that the whole programme team understands the current position with regards to student retention.
- Consider gathering data at faculty/school level, even if only to provide greater details when discussing institutional withdrawals data in order to understand more about:
  - Individuals and groups most at risk of withdrawing early
  - Which assessments or modules students are most likely to struggle with
  - Times when students are more at risk of leaving early

Using Informal data
Our research indicates that even in large programmes, staff teams made a real effort to know the students personally. Student feedback suggested that being known or noticed was an important factor for retention, for example one doubter reported feeling noticed and reassured when *'My lecturer for the previous module approached me at the end of class when she thought I looked worried and concerned'.*

Suggested actions
- Place more emphasis on building personal relationships with first year students. In most institutions this is likely to require allocating more resources into the first year (Yorke & Thomas 2003)
- Make sure that there is communication within the team regarding students at risk of withdrawing
- Allocate time to review both the formal and informal withdrawals data.
  - Were there any warning signs?
  - Does the team 'really' know why a particular student withdrew?
  - Was there anything practical that could have been done to prevent withdrawal?

Monitor 'at risk' times
The bibliography provides reading around some of the key at risk times (eg, Fitzgibbon & Prior 2006; Roberts et al 2003)

We found that the reasons for doubting changed over time: student lifestyle anxieties were more prevalent early in the academic year and the prevalence of academic reasons for doubting became overwhelming as

the year progressed. Interestingly, our research identified that some students felt a commitment to their course at the start of the year then experienced real anxieties about coping as the year progressed. Other students reported being most committed when preparing for exams and completing final assignments for the year stating that they were enjoying the fact that they were drawing together the different threads they had been studying.

Suggested action

- Consider the risk times for courses/modules and plan appropriate strategies to ease the transition or help new students to cope.

Monitor engagement, not just attendance

Two effective strategies identified in the HERE Project were:

- a comprehensive attendance policy for *'picking people up who might have problems who wouldn't necessarily have come forward.'* This was coordinated by a programme team member who reported that *'we keep a tight record of attendance… it's difficult for them to disappear… we are looking out for issues.'* Students were aware of this policy and in the programme surveys some reported that they found it *'very useful, a motivator'*.
- review non-submission and contact the student immediately

Keenan (in preparation) notes that there is a strong correlation between the engagement of students during induction week and the first week of teaching indicating that students with absence in both of these weeks have been found to have a higher risk factor of early withdrawal or failure than their peers. It is important therefore that particular attention is given to this at risk group, and, is a persuasive argument for re-thinking the language, pedagogy and practices associated with 'induction' to HE.

Top Tips

- Monitor and review retention as part of an on-going quality control process
- Use resources such as the HERE project tool kit to self audit provision and consider strategies for improving retention
- Work with different programme teams to exchange ideas about improving retention and having a 'safe' partner with whom to discuss approaches
- Look for patterns and respond quickly, eg, is there a particular module that is problematic? If so, consider alternative learning, teaching and assessment approaches
- Refer to **www.learnhigher.ac.uk** for free to use, quality assured, peer reviewed on-line learning resources

Suggested actions

- Programme teams monitor engagement as well as attendance and respond quickly to students who appear to be disengaging
- Monitor attendance of students during transition/induction activities and correlate with attendance in the first week of teaching

Respond to students at risk

It is important that any process of looking at students at risk also includes an action plan to respond to students' immediate needs and action planning to prevent or mitigate against future problems. In the HERE Project case studies, different programmes adopted different strategies for moving students on to additional support such as writing and maths specialists or dyslexia experts. One programme we looked at had a Director of Studies with an integrated pastoral role who was not only a resource to students, but also provided feedback for the programme and made recommendations for future developments.

Theme two

Help students to make the transition to being effective learners at university

Background

Transition to HE is a critical phase in student experience (Banning 1989; Foster, Bell & Salzano (2008), Tahir (2008), Jessen & Elander (2009), Cook and Leckey (1999), Bryson & Hardy (forthcoming), (Leask, 2006, p191). Student preparedness is another theme, Foster, Lawther & McNeil (2011), (Keenan in preparation), Leask (2006) and Yorke and Thomas (2003). The Trans;*it* project also explored the range of demands on engineering students including discipline knowledge, assessment methods, and development of critical analytical skills.

The research

In 2009, the HERE Project team identified that 'academic study' was the highest priority for new first year students yet the most frequently-cited reason for considering withdrawing was also related to 'academic studies'.

Doubters were less likely to be confident about their ability to cope with their studies:

- the factor most closely associated with confidence was whether or not students found that their feedback was useful.
- doubters had less successfully adapted to HE and struggled to understand the different nature of feedback in HE.
- doubters were less aware of the differences between further education and higher education and that it was less likely that anyone had explained what these differences were.
- students reported their STEM subjects to be much harder than other subjects that their friends were studying
- doubters were likely to be performing less well academically.
- the relationship between UCAS points and doubting was inconclusive – many students with high UCAS points had also expressed doubts.
- doubters reported that they were more likely to have struggled with aspects of their course and that they felt less confident about asking for help (although in the event, were more likely to ask for it). Doubters also reported being more distant from their tutors and less likely to feel known by the teaching team.

Recommendation:
Improve students' understanding about Higher Education and provide opportunities to develop their academic confidence.

Suggested actions

Programme teams review their induction practice to:

- Provide opportunities for students to practice the skills and approaches needed to cope with learning at university
- Provide input from higher level students to help newcomers understand the differences between FE and HE?
- Include discussion about appropriate approaches to study at points where students are practicing that skill. For example, review approaches to note making in lectures.
- Use tutorials to formally discuss and practice appropriate academic practices and establish mechanisms for goal setting.
- See guidelines for setting up Peer Assisted Learning schemes **http://hestem-sw.org.uk/project?id=13&pp=613**

Create an environment conducive to peer support

In 2009, the most important reason cited by student doubters at all three institutions for staying at university was support from friends and family with 'friends made at university' rated highly, yet, doubters were less likely to report that their course is friendly

Science ambassadors interviewed for the National HE STEM Programme's SW project identified that peer support had been particularly helpful to them whilst they had been at university, providing: confidence, role models, support, and 'expert' insights about 'how to be a successful student' (further information can be found on the project website). Peer Assisted Learning (PAL) helps create a supportive environment where students can ask for help. For example, one student commented: *'I understand the topics I have to do my coursework on and I know that if I don't, I can ask for guidance from my lecturers and PAL leader'.* STEM students also commented that they valued opportunities for working with others, eg, in Maths Cafés.

Suggested actions

- Programme teams build small group activity within the curriculum, particularly in the first term, and ensure that ice breakers and other structured social activities are built into the induction and early transition period (Cook & Rushton, 2008).
- Explore using student buddies, peer mentors or peer assisted learning schemes to support students, particularly early in the academic year. Peer mentoring tends to be a more formal process that follows the curriculum, buddying tends to be less formal. Whatever model is adopted, peer mentors or buddies are an invaluable resource throughout the first year, from helping students during the transition phase to helping them approach their end of year exams

Improve students' understanding of assessment

In 2009 only one third of doubting students agreed that assessment was as they had expected compared to two thirds of non-doubters. Not only do doubters have less understanding of the nature of higher education, they also have less understanding of practices within it, including assessment.

Suggested actions

- Programmes to use activities that explicitly explore expectations about assessment in higher education. These might include:
  - Analysis of elements of previous students' assignments
  - Staged construction of assignments, for example writing a literature review, discussing it in class and then using the feedback to shape the full assignment
  - Discussions about assessment criteria and academic discourse (for example what does 'be more critical' actually mean).

Better use of formative feedback

There is a strong association between confidence and the usefulness of feedback (Yorke 2001; Foster, McNeil & Lawther forthcoming). Feedback offers reassurance to students that they are coping: *'At the beginning of the course I was a bit overwhelmed by the amount of people who were clearly very smart and I found myself questioning my own academic abilities. After completing my first few assignments I convinced myself I hadn't done very well but I got good marks throughout the year as well as very detailed feedback so I was able to improve my work.'* (student comment)

Suggested actions

- Use formative feedback, particularly early in the first year to offer diagnostic advice to students.
- Where possible integrate discussion and action planning from formative feedback into tutorials throughout the year.

Consider differentiation

Higher education ought to offer opportunities to challenge and stretch students (Chickering & Gamson, 1987). However we noted that

- students who were finding their work difficult were more likely to be doubters
- students at the extremes were likely to have doubts – working 'not much at all' or 'very hard' appeared to make students more likely to doubt.

It would be worthwhile considering strategies for stretching the more confident students and also supporting the less confident or able students in order to ensure that the curriculum delivery meets the needs of all students for example, use of Maths Cafés.

It is also important to ensure that students are not mis-directing their energies, one student doubter reported working very hard but still achieving low grades and felt she was not getting anywhere.

STEM Ambassadors and students interviewed for the National HE STEM SW project also spoke of the 'difficulty' of their subjects compared to those their friends were studying.

Suggested actions

- Discuss options for structuring groups around their academic performance. It may be that this is useful for certain subjects that students can find difficult.
- Consider setting up opportunities for informal learning to stretch the more able and provide support for the less able, for example Maths Cafés (Bradshaw 2011).
- Programmes devise ways to encourage students throughout the year. One programme, for example, highlighted student achievements in the university magazine and promoted this to first years, another sent letters of commendation to students who do well in the first year. A programme at NTU publishes all dissertations that receive a first in the departmental internet journal.
- One participating programme on the HERE Project required its students to attend a timetabled weekly maths session unless or until they complete and pass an online assessment on the VLE. This way, those who don't need the additional support can focus elsewhere and those who need it can participate in smaller groups.

Top Tips

- Provide interesting and engaging discipline focused pre-arrival activities such as Stepping Stones 2HE (Keenan 2012) which provides contextualised academically focused developmental transition support
- The Institute of Physics Report 'Mind the Gap' states 'a number of students indicated that it may have been useful to have received more guidance on what topics their course might cover, even to have some sheets of problems to get them 'back up to speed' following the summer break. This was an even keener issue for those students that had taken a gap year'
- Provide theme lectures during the induction phase this introduces students to a lecture format, provides a view of the curriculum and, how it aligns to aspirational goals (final year projects, employability, etc)
- Provide opportunities for formative feedback, for example: A first year unit on a technology course at Bournemouth University has a weekly formative blog assessment designed to track the broader curriculum and, provide industry awareness and context. This has the effect of giving students a bite size introduction to assessment which builds to an end of year portfolio and provides opportunity for peer and tutor feedback. Students report that it increased their academic confidence and helped them make connections with related parts of the curriculum **www.hestem-sw.org.uk/project?id=9**

Theme three
Relationship and communication with staff

Background

Our findings demonstrate that students correlate feeling valued by teaching staff with increased confidence about coping with studies, also referred to by Yorke and Longden, 2008:26, 2008:50, Yorke & Thomas 2003; Thomas 2002:432; Percy, 2002:97; Pargetter et al, 1998 and Chickering & Gamson 1987.

The research

The HERE Project findings suggest that having an academic who is personally interested in students has a profound influence on a student's confidence in seeking help. 'I see him quite often even if I just bump into him and he asks me if everything is going OK. If I've got any problems I always go and see him'. For some doubters, contact with a member of academic staff was cited as a reason to stay: 'This period of crisis where I didn't really know what to do and if I was managing with my studies, I guess getting that tutor support… that kind of broke some barriers that I had in my head'. Doubters were also more likely to rate 'feeling valued by teaching staff', 'lecturers being accessible' and 'knowing where to go if they had a problem' as more important than non-doubters but reported a less positive experience of these factors.

Recommendation:
Enhance the staff/student relationship

Students may need support to make the transition to a different kind of staff/student relationship in higher education (Foster, Lawther and McNeil 2010) and may have had less practice of actively seeking help than many university tutors expect.

It is important to:

- make strong efforts to alert students to differences between approaches in FE and HE
- ensure students understand university, the roles of the course team, the role of being a student and the communication between the team and the students
- encourage students to ask questions
- build relationships with students as early as possible including before arrival
- provide opportunities for a face to face meeting during the first week, and for both formal and informal contact with students during the year

Suggested actions

Give students opportunities to understand how relationships with University staff may differ from their previous experience

- For example, use a learning contract to establish a partnership with the students working in groups to design a learning contract during a study skills session with the support of their Year Tutor which is then circulated to the course team.
- Offer students early communication with a member of the course team, prior to arrival if possible, and a face to face meeting during the first week with a member of staff that they will have regular contact with during the first year.
- Use contextual transition resources such as 'Stepping Stones to 2HE'
- Ensure large cohorts are designed to feel small, for example, at NTU a tutorial system is being implemented. The system is designed to help students manage the transition to HE, develop appropriate strategies and importantly to build a close relationship between a tutor and a tutor group of 8 –12 students.
- Successful HERE project programmes had devised different ways to encourage a sense of community, such as through small tutor groups and weekly workshop sessions in which students were expected to work together in small groups
- Provide students with opportunities to contact staff other than their personal tutor.
- A well-publicised open door policy allows students to contact staff they feel comfortable with if not their allocated tutor.

Recommendation:
Communicate with students about the programme

Doubters were more likely to report feeling that the course was disorganised than their non-doubting peers. This included

- communication about the course as a whole
- information about changes during the first year, such as timetable changes, placements, module choices
- whilst electronic communication is valuable, personal contact is much more important for first year doubters.

Programme teams highlighted the importance of using a number of different methods of communication for example:

- the importance of communication by letter during the summer directly before and directly after the first year because some students may have limited access to email
- explaining to students how the programme team worked together, their different roles and the systems they use

- systems should be made transparent both within the team and for the students
- doubters in particular appear to need more assistance to understand the nature of higher education including their relationship with staff and so it is particularly important that the whole team communicates to them consistently and effectively
- the importance of a whole team approach to supporting student transition to the first year (Pargetter et al,1998).

Suggested actions

Give students opportunities to understand how relationships with University staff may differ from their previous experience

- Ensure the programme adopts a whole team approach to retention and transition which includes a role for academic staff, administration staff and professional support services.
- Communicate how the course is structured and the additional support that is available clearly to students early in the year.
- Explain the roles of the course team during a session in induction, putting up photos of the course team to help familiarisation, direct students to a webpage outlining the course team, their roles and further sources of support
- Communicate systems to students, for example, the exam board process and the referrals process.
- Students in one programme had access to a Director of Studies Stage 1/first year tutor. A core part of this role is to act as a focal point for students, to support them with day to day issues and to look out for individual problems. Students are explicitly told of about the role of the tutor from the start and directed to meet with the tutor as a first point of contact for any issues
- Ensure changes that take place within the course such as changes to the timetable, information about placements, module changes, etc are communicated to students clearly and in a variety of ways.
- Make use of a variety of communication tools, for example, a regular news bulletin, the VLE, department website, emails and social media for other 'just in time' information

Recommendation:

Communicate within the programme about students

The HERE Programme research found that communication within the course team about individual students was useful to help identify students 'at risk'. This allowed the team to discuss whether a particular student's non-attendance or poor engagement was an issue for one module or a pattern across the course.

'… a feature of the team and the way in which the team supports the student is an intimacy so… we make the efforts to get to know the students. Conversations will take place amongst the team about the students and their progress and that is a regular part of what we do' (staff comment).

Action points

- Set time aside for formal communication about retention and engagement issues and discuss any student's issues with each other confidentially and in-depth.
- Allocate staff time to support this, for example to check performance and progress across the programme.
- Provide regular informal opportunities to discuss students for example at the beginning and end of meetings.

Recommendation:

Communication from the students to the programme team

Students surveyed during our research described the importance of staff being responsive to their suggestions about improvements to the course and taking the time to report back about any changes that had been made. Staff also reported that this helped to build relationships with the students and was most effective when students were given time within the curriculum to do this.

Action points

- Programme teams reinforce the importance to students of using all opportunities provided for student feedback.
- Notes and actions are well publicised and that students are aware of any outcomes or changes to illustrate that their views are being acknowledged, valued and acted upon. Programmes also found it useful to explain why some issues could not be addressed if this was the case.
- Encourage students to give informal feedback to staff during the year and communicate this feedback to the course team.

Theme four

Help students make more informed decisions about choosing the right course in the first place

Background

From 2012 onwards UK HEIs are required to provide Key Information Sets (KIS) to potential students, but even if these provide succinct and clear information about the learning experience, it is far from clear that students will be able to interpret them into a meaningful understanding of what the experience will be like. Universities and academic programmes will promote a vibrant, positive environment full of opportunities for students to thrive. However, the reality can be challenging for new students (Purnell & Foster 2008; Yorke & Longden 2008; Quinn et al 2005). Students are often unclear about how university will be different and over-confident about how well prepared they are for studying independently.

Our research

Course related issues were the most frequently cited reasons for doubting, for example in 2009 'course not as expected' was the second most frequently cited reason after 'anxiety about coping'. Doubters perceived materials provided by the institution prior to arrival to be significantly less accurate than their non-doubting peers. One student doubter offered the following advice to new students:

'I think do as much research as you can… Try to get as much information as you can about your actual course. Try to visit the uni… Try to find out information from them to determine whether it's the right course and university for you… because if you feel like you're not going to do as well as you could do, or you feel like it's not the right place or the right time to go to university, then you're not going to do as well as you could do… if your heart's not in it you'll probably find yourself struggling or dropping out'

Recommendation:
Match students to the course

Several of our STEM Ambassador case study interviewees felt that the investment of time in working with potential students during the recruitment period paid dividends in helping new students to gain a better understanding of the variety of courses available and the nature and expectations of those courses.

Recommendation:
Use of open days and other communication channels

Non-doubters were positive about the welcome they received at open days and how this had helped them start to feel that they belonged to the university. For example 'From when I came to the open day I felt really happy at this University, and since coming here I have met some wonderful people and have come to feel like this is my home' (non-doubter student comment). Clearly non-doubting students felt very strongly that open days and marketing materials had a powerfully beneficial impact upon helping students choose the right course.

However we did find overall, that students who attended open days were just as likely to be doubters as those who had not, therefore more thought needs to be given to ensuring all students can meaningfully interpret the event.

Suggested actions

- Review the extent to which marketing messages are moderated by information about the actual learning and teaching experience. Open days are promotional events to promote the positive and the exciting however, thought needs to be given to how to also talk about the more challenging aspects of the course, or even more day to day matters such as the reality of independent learning.
- Check the content of marketing materials with first year students. Were there any aspects they felt were unclear, or even misleading about the learning experience? If so, explore ways of better balancing the promotional messages with the reality of actually being a student.

Recommendation:
Provide a range of information to students prior to starting their programme

Pre-entry information about learning at university plays an important part in the starting at university process. We recommend that a range of developmental transition resources are made available to students through programmes such as Stepping Stones 2HE (Keenan 2008) and Flying Start (Leeds 2011).

Suggested actions

- Make information more generally available about what learning is actually like at University and on your particular programme so that students can access and assess it whilst thinking about university
- Provide more targeted communication about what to expect in the period between a final offer being made and students starting university. Tie this work into the early part of the first year curriculum.
- Ensure clarity – we found that students often choose not to 'hear' that there will be maths, or software programming, in their programmes. Ensure that this is clearly explained. At Bournemouth University a letter is sent to students prior to enrolment on a Creative Technology Course clearly describing the technical content – which has resulted in improved retention.

Theme five
Improve social integration

Background
The importance of social and academic integration is an important factor in retention (Yorke & Longden 2008; Tinto 1993).

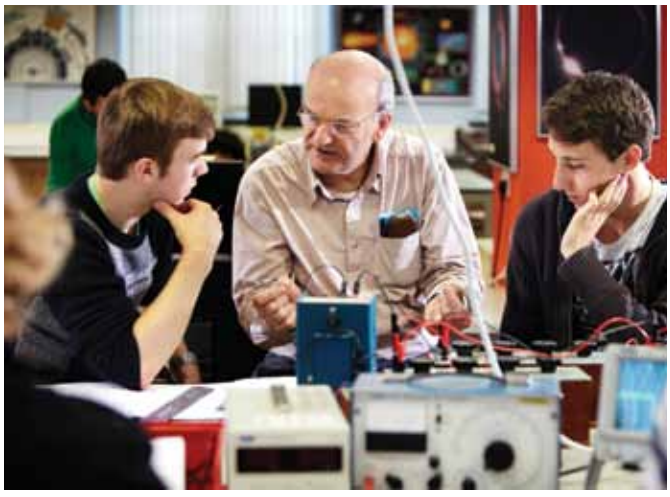
The research
In the 2011 HERE Project surveys, non-doubting students reported a larger circle of friends than their doubting peers and felt that their course was friendlier. Our 2009 survey found that the most frequently cited reason by doubters for staying was 'friends and family', 'my new friends have been able to help me get through many hardships, so they are part of the reason why I have been able to stay' (student comment), with friends made at university the most important group. Experience suggests that students who withdraw often cite problems associated with friendship making as reasons to leave.

Recommendation:
Pre-arrival activities including social networking
Most universities use a range of social networking sites to communicate with students prior to their arrival at university. Most students want to start talking to others on the programme or in their accommodation in the weeks before they arrive on campus. Our 2011 survey indicated that Bournemouth University students logged onto a range of social networking sites prior to starting university for example Facebook, yougofurther, etc and there appeared to be fewer doubters amongst those who had done so. Our survey found that only 17% of students who had logged onto Stepping Stones 2HE at Bournemouth University were doubters which is consistent with other evaluation undertaken at Bournemouth on retention impact suggesting that there are benefits from social networking, but considerably more from providing dedicated pre-arrival activities.

Suggested actions
- Use social networking to provide a range of spaces for students to start to build up friendships prior to arrival for example on their programmes, in their accommodation, rather than a single social networking page.
- Provide students with information and academically-oriented activities prior to arrival drawing upon the Stepping Stones 2HE model (Keenan, 2008). Other good examples of these types of activity include:
  - **flyingstart.leeds.ac.uk/**
  - **www.ntu.ac.uk/starting_at_ntu/course_inductions/**
  - **www.brunel.ac.uk/services/headstart**

Recommendation:
Programme Induction
In the NTU 2010 Welcome Week Survey, the most frequently-mentioned place for making friends was in the course (87% of respondents), the second most common location was accommodation (74%). Programme inductions clearly provide an opportunity to create a social climate. Therefore it is particularly important to offer a diverse range of induction activities. There are also many examples of successful course socials, for example, at Greenwich University, the science staff-student induction week BBQ was so successful that it is now shared with engineering!

Suggested actions
Deliver programme inductions, particularly within the curriculum, that maximise opportunities for students to socialise that include:
- Ice breakers – whilst some lecturers and students might be uncomfortable with icebreakers, many students will benefit from the opportunities to learn each other's names and talk to one another.
- Small group tasks with a course related purpose such as team tasks during the first week when students are expected to gather data relevant to the discipline, and then produce a group presentation from it. This is particularly beneficial if the students have done some preparatory work before arrival.
- Reduce the amount of time students spend sitting passively listening in induction 'when you feel lost and bewildered, the last thing you want is long lectures' (Edward 2001). We recommend providing small group activities and discussions that offer more opportunities for students to start to build support networks and feel part of the course community.



Group Work (particularly field trips)

Students interviewed for the HERE Project reported that group projects or small tasks had been invaluable for making friends early in the induction phase. Group work offers an opportunity for students to develop friendships and build support networks. Interestingly, fieldwork activities were felt to be effective environments for developing social ties. *'I've never been so homesick as I was that weekend… but what it did do was really pulled [together] our friendships… because we were feeling a bit out of our depth… then when you came back after, then you really felt that you knew people'* (student comment). It is important to bear in mind that field trips can have an excluding effect on those unwilling or unable to participate (McLaughlin et al 2006; Palmer et al 2009) but there are also significant benefits. Our science ambassador participants remembered the value of going on field trips early in the first year and suggested that similar activities should be arranged for other Science students including mathematics, as this kind of activity may be more appealing to science students than some other more party based activities.

Suggested actions

- Programme teams consider the use of field trips as part of the process of building communities. We would also recommend that participation is integrated into the curriculum with preparatory team activities before and assessed elements afterwards.
- Think creatively about the use of field trips, would it be useful to organise events such as this across a range of disciplines other than the obvious field based subjects.

Peer Support (Buddies & Supplemental Instruction)

PAL (Peer Assisted Learning) is a programme in which second or final year students are trained to facilitate workshops for first years. These have a social element, but are fundamentally academic in nature and reinforce learning taking place in the curriculum. First year students choose what they'd like to work on from the curriculum and the PAL leaders facilitate discussion around the topic, essentially creating a facilitated study group.

PAL leaders are trained in facilitation techniques such as using icebreakers and sessions are informal in nature. Students feel that this informality helps promote a sense of community in the group. *'In a PAL session, we had to say our names, where we are from and something unique about ourselves. I found that everyone let their guards down, so we could start getting to know each other'* (BU student).

The model for PAL was originally developed in the USA and tends to be known internationally as Supplemental Instruction, in the UK there is an accredited centre at Manchester University. www.pass.manchester.ac.uk

Buddying is a less-structured technique for using more experienced students to support first years. Although buddies can help new students with a wide range of needs, they tend to work primarily in social/pastoral support. Activities tend to include making contact with students via email prior to starting, showing students around the campus during induction week, hosting informal discussions, offering email advice, or even organising course social events. All of which can help engender a greater sense of social cohesion within the programme.

Suggested actions

Use higher level students to offer peer support to new students.

- The two major centres of PAL/supplemental instruction type peer support in the UK are:
  - Bournemouth University – PAL – **http://pal.bournemouth.ac.uk**
  - The University of Manchester – PASS – **www.pass.manchester.ac.uk**
  - Buddying can be a good way of dipping your toe into the field by experimenting with a small number of activities during your induction.
- For more information about peer assisted learning, including setting up PAL schemes see **http://hestem-sw.org.uk/project?id=13&pp=250**

Theme six
Improve a sense of belonging to the programme

Background

Doubters report feeling less clear about university processes and less certain about their relationships with peers and tutors. It appears that that doubters are semi-detached from the university environment and far less firmly fixed to the institution than their non-doubting peers. In 2011, we asked students whether they felt that they fitted in or not 75% of non-doubters felt that they did so, whereas only 45% of doubters felt the same way. How and when students develop a sense of belonging is an interesting and complex topic (Palmer, O'Kane & Owens 2009, Keenan 2011), and has a profound influence on 'students' emotional, motivational, and academic functioning' Cashmore et al (2007-10).

Our research

Our evidence suggests that the students' sense of belonging is developed through good relationships with their peers and tutors, a sense of cohort identity and a sense of belonging to their particular university campus. Students surveyed in the HERE project and on the HE STEM SW project consistently reported that they valued tutors who demonstrated enthusiasm which Pressley et al (1995) suggest is a motivation trigger, along with provision of relevant and contextual learning experiences. Doubters appeared to feel less like they fitted in to their programme than non-doubters. Student doubters describe feeling that they were struggling to adjust to the new reality as a university student, felt that social opportunities were limited and felt less at ease in the course and on the campus. Some recognised that they did not feel comfortable taking part in the social activities going on around them, conversely non-doubting students could all recall a moment in time when they had started to feel that they belonged to the university: *'I think it starts when you walk down the street and you see someone and you say 'hey… I know them from university'… that's what made me feel like [I belonged]'* (student non-doubter). Cashmore et al (2007-10) identified six key themes around the notion of belonging, which are: role of personal tutors and other staff relationships, departmental culture and curriculum methods, managing expectations, central services, social spaces and clubs and societies.

Recommendation:
Develop a sense of community within the programme

One staff member interviewed during the programme audits explained that *'students have often come from educational settings where they have had a really clear identity… when they come to university it can be very difficult [as] they are not scheduled 9-5 each day to attend lectures to develop that identity. I think HE can overestimate the opportunities students have to feel a sense of belonging. Not everyone wants to join the football team.'*

It is important to timetable group activities building in lunch breaks during Welcome Week to create opportunities for students to feel part of a course community.

Suggested actions

Many of the actions in earlier sections will help develop a sense of identity, for example

- Ice breakers and small group activity early in the year
- Small group tutorials
- Group work, including off site visits
- Some students may value opportunities to engage in electronic discussions, but these need managing carefully as students can be ambivalent about how they use institutional social media, particularly if there is a lecturer in the discussion.
- Where possible, developing space for students to feel they belong to. Lecturers interviewed felt that students valued having an identifiable space they belonged to.

Recommendation:
Developing a sense of belonging to the wider university community

Although Kember, Lee & Li (2001) suggest that the primary sense of identity students have is with the course, a number of our respondents explained that they felt an association with the wider university community. Some students describe that this develops through membership of clubs and societies and through using university sports and social facilities. One explained that a sense of belonging came from *'really simple things like… finding somewhere I could sit down and have lunch and feel comfortable like I could sit there…'* (student interviewee). Another student interviewee described the importance of feeling connected to the rest of the university through simple activities such as *'I do take an interest in what's going on, you know like reading different posters and stuff dotted around.'*

In 2011, some of our participants were asked to identify what additional social activities they would like their universities to offer. Students wanted to see available a range of activities such as day trips, film nights, course socials and comedy events. At the start of each academic year, NTU provides a programme of social, cultural academic and sporting activities known as Welcome Week. The Week provides approximately 350 opportunities for students to start to construct social support networks. These range from small scale cultural activities such as participating in a reading group to a large scale 'It's a Knockout' competition known as Saturday Antics. www.ntu.ac.uk/welcome

Suggested actions

- Provide formal and informal extra-curricular activities to support students and promote their engagement in HE through:
  - Establishment of peer networks
  - Access to appropriate informal spaces
  - Integration of students living on or off campus
  - Pastoral and financial support
  - Provision and accreditation of non-academic student experience
- Ensure that course teams find out about and promote institutional events (for example varsity sports, lecture series, exhibitions and significant social events such as balls) to their students. There may be strong benefits from taking part in these events as a whole course group.
- Course teams push for the inclusion of social spaces on campus.

Theme seven

Foster motivation and help students understand how the programme can help them achieve their future goals

Background

A student's engagement, motivation and aims are not necessarily predetermined or static. The student and the university can work together to co-create positive environments and positive self-perceptions which may impact positively upon retention and engagement (Stevenson & Clegg 2010, Mann 2008, Plimmer & Schmidt 2007, Stevenson et al. 2010, Bryson et al 2012).

Our research

A HERE project pilot study found that future goals, in particular, the goals of coming to university and employability, had been an important motivator for students to stay in post compulsory education. The HE STEM SW project also identified that STEM students appear to be particularly goal driven and it is a recommendation that a transition pedagogy is developed that takes these traits into account (Keenan in preparation). However, students with doubts about being at university were also less likely to be confident that the course was helping them to achieve their future goals than non-doubters. In the 2011 survey, students were asked to choose from a list of possible reasons identifying why they had stayed at university. In all three institutions 'personal determination' had become the most commonly cited response and 'future goals', the second most frequent.

Recommendation:
Support internal motivation

We found that there were a number of ways that programme teams could create an environment conducive to developing students' personal motivations. It is important that staff are known to students and that there are opportunities for interaction and reflection. It is important to timetable group activities building in lunch breaks during Welcome Week to create opportunities for students to feel part of a course community.

Suggested actions

- Support students' internal motivation – encourage students to consider their own motivations for being at university, rewarding the positive and fostering a good relationship with students.
- Used a 'Wall of Success' activity during induction week whereby students write a note on the wall about what they consider success to be at university. This example of practice was aimed at engaging students with their degree and motivating them for the future.
- Provide aspirational seminars that signpost to exciting cutting edge research in the discipline area, ideas for final year projects and employment opportunities
- Celebrate student achievements for example, send letters of commendation to students who do well in the first year, and put commendations in the university or department magazine.
- A programme at Bournemouth University encourages current and past students to discuss their experiences. A 'Speed-up dating event', for example, saw former students come in to talk about what they've been doing since they left the course to motivate the students and their academic journey.

Recommendation:
Support motivation through links to external goals

Students appear to want reassurance that their degree will help them achieve their future goals. Student doubters appeared to respond positively to activities that help them to understand how actions in the first year will help them prepare for future employability. For example *'The lecturers are very good and all have lots of experience in industry. The assignments are relevant to tasks you would typically be set in the work place*' (student comment).

Students respond positively to activities within the curriculum that enabled them to glimpse the opportunities that their course provided. Clearly this is important in courses with a vocational perspective *'I know what I want out of it and it will be better for my future career'* (student). However, it also appeared important to students who were not on vocational courses: *'There is a brilliant variety of modules within my*

course and I like this as it gives me an idea of what options I can do in the future as I'm not sure what I would like to do as a career' (student). STEM Ambassadors in the HE STEM SW project consistently pointed to goal setting as a motivational tool to engage science students and help support them over difficult bits of the first year.

Suggested actions

- Relate learning and teaching to career prospects and employment from early on in the course.
  - For example in the HERE Project, one course used teacher practitioners to give perspectives of the real world, another held a careers day for first year students to meet local employers
  - Use theme lectures during induction week as an introduction to the subject and to the experience of a lecture, and offer motivational seminars during the first term
- Involve students in staff projects
  - At NTU, for example, the SPUR scheme (Scholarship Projects for Undergraduate Researchers) awards bursaries to staff to involve 2nd year students in research projects
  - At Bradford University, one course runs a student led research project on evaluating induction week. The programme reports that this allows students to examine aspects of the student experience so they feel they are impacting on how their programme operates and being acknowledged for their input.
- Formalise employability/careers as part of the curriculum
  - For example through professional practice modules
  - Links to central careers services to offer sessions and information such as CV guidance and feedback.

Recommendation:
Opportunities for experience

Placements appear to be valuable motivators as they help students to both develop skills and knowledge relevant to possible future roles, but also allow students to imagine themselves in these new roles. One of the programmes within our study provided students with an opportunity to participate in fieldwork during their first week at university. *'We make a point of… making sure that students can see how their interest could be developed into work skills through engagement in fieldwork… I think that is a big part of making students feel that they're able to put their enjoyment into action that will actually get them work…'* (staff member). One of the Bournemouth University programmes also provides a 'placement and international fieldwork fair' in which first year students can see poster presentations and interact with second and final year students describing their placement and fieldwork experience. This activity was felt by staff to help build cohesion within programmes and also help first year students to see how *'students just one year ahead of them have already really got involved… I think that's really important… giving them the push to get involved and also the confidence to see it's something they can do'* (staff member).

Suggested actions

- Where possible, provide opportunities for work based learning, placements, work experience or fieldwork.
- Encourage students to explore opportunities outside of their course that relate to their chosen career such as volunteering, relevant paid work opportunities
- These opportunities should be effectively promoted and advertised.

Theme eight
Encourage students' active engagement with the curriculum

Background

In their large study of the first year, Yorke & Longden (2008, p41) found that a major reason for withdrawal was 'a lack of personal engagement with the programme'. Encouraging students to adopt active engagement behaviours is likely to come about through a combination of approaches, such as the time and effort invested (Kuh 2001), and a range of broader environmental factors, motivations and personal circumstances (Barnett 2007, Hardy & Bryson 2010, Trowler 2010, Bryson & Hand 2008). Coates (2007) also suggests that student engagement is dynamic and changeable. Engagement also links to learning contexts including assessment (Willis 1993, Mann 2005, Hockings 2010, Kuh 2008, Castles 2004). Barnett (2007) argues that the study of persistence is more than merely reversing the arguments about why students depart early, but is instead a more ontological one about the nature of being a student. He argues that the potentially transformative nature of engaging with the discipline and tutors ought to be nurtured.

Our research

The HERE Project asked students to report on 17 factors associated with their experiences of being a student. 'Enthusiastic lecturers' and an 'interesting subject' were rated amongst the five most important of the 17 factors. Again student doubters reported a lower score than their non-doubting peers with 59.8% of doubters reported that their course was interesting compared to 83.6% of non-doubters and 50.0% of doubters reported having enthusiastic lecturers compared to 67.4% of non-doubters. Doubters were more likely to cite aspects of the learning and teaching experience as important to them in generating interest. For example *'The discussions, the theories and arguments promoted… really open your mind up to new ways in which to think about photography'* (student doubter). Whilst it appears that the factors closely overlap, this does suggest that even though doubters may be less intrinsically interested in the subject matter, this can be ameliorated through the use of interesting learning and teaching techniques.

Recommendation:
Use active learning approaches throughout the first year
Most students arriving at University each Autumn will have previously studied in an environment where they will have received high levels of guidance and support (Foster, Lawther & McNeil, 2011). There is a risk that if their early experiences are lectures presented to large, potentially anonymous cohorts they will adopt strategies of minimal engagement. Therefore it is important to engage students with active and interesting forms of learning from the very start of the course.

Programme teams interviewed by the HERE researchers considered it fundamental to recruit the most suitable people to teach first year students and encouraged their staff to evaluate and review practice in order to continually improve the learning experience for students.

Suggested actions

- Introduce groupwork to students early to facilitate the development of learning communities that encourage academic and social integration
- Involve students in practical work such as experiments, fieldwork and research from the very start of their university career (Healey & Jenkins, 2009)
- Provide student-centred approaches that are interactive and involve students in the learning process are adopted
- Ensure that teaching staff are absolutely clear to their students about the value of discussion, debate and culture of asking questions

Recommendation:
Provide a range of learning experiences during the first year
Offering a range of learning experiences in the first year supports students in mastering the craft of becoming a learner in HE is particularly important to help doubting students if they encounter a range of stimulating activities.

Suggested actions

- Use projects in which students can see real world applications: *'Every year we have lots of our students being involved working with the National Trust, working with the RSPB doing practical conservation work that's related to research work that we're doing here so I think they can see how it all joins up and I think that's really important… it's about preparing them for their life and that they can take control of how they build that degree and the surrounding experience to make it possible for them to live the career and the life they want to lead'* (staff comment).
- Engage first year students in 'Real Life Social Projects' whereby students work in small groups on one of four different tasks that help them to apply their learning to the real world. For example, one group is responsible for organising a social activity, another responsible for inviting a guest speaker, one engages in a 'making a difference' project (eg, helping the community), and a final group arranges a fund raising initiative. As well as helping students to bond, the tasks help students to actively develop their project management, event organisation and team working skills.
  To assess the tasks, students are asked to record project documentation online. Rather than a final report, ask students to provide documentary evidence of their event/project using multimedia to present it in an engaging way, such as narrated auto-running PowerPoint presentations, video clips, You Tube and Facebook.

Recommendation:
Formative assessment in the first year

In the 2009 Student Transition Survey, the factor with the strongest association to a student's confidence about coping with their studies was whether or not they found the feedback to be as they expected. Confidence therefore appeared to be associated with whether or not the student appeared to understand and be able to use the feedback provided. Students benefit where help is provided in learning how to use feedback and therefore, approaches that include provision of formative feedback in the first year would be helpful.

Suggested actions

- Ensure students receive some formative feedback in the first year (see Yorke, 2003) or explore other forms of feedback such as peer review or feedback from student mentors.
- Review learning teaching and assessment practices and curriculum content, development and content to ensure it is designed to promote the success of all students
- Provide learning development opportunities to ensure students develop as confident learners
- Provision of academic support and development of academic skills
- Improve social integration within the curriculum by:
  - Use of formative group projects using enquiry based learning (Dyke 2010)
  - Use of formative assessment for confidence building (Keenan 2011)
  - Provision of maths café/maths arcades as a space for students and tutors to work together informally (Bradshaw 2011)
  - Provide opportunities for peer mentoring using higher level peers (Benjamin, Symonds, Maliris, Parton 2011)

Theme nine

Ensure that there is good communication and access to additional student support

Background

Dodgson and Bolam (2002:43) found that students were more likely to access their personal tutor and the Students' Union for support than student support services. They suggest that this may be because they do not need this support but it may also be because they 'do not know where to go or do not want to access support services offered by universities'. Borland and James (1999) reporting specifically on the learning experience of students with disabilities report that the 'mainstay of student support', the first port of call, is the academic tutor.

Our research

We define additional support as that provided by specialists such as financial advisers, counsellors, careers advisers, chaplains, disability specialists etc. Support from these services was reported by relatively few doubters as a reason to stay. However, it was found in the student interviews that for some students this additional support was instrumental in their decision to stay.

'[The International Student Office] saved my life, [in] my first week… they showed me everything I needed to know. Literally' (student comment)

Recommendation:
Ensure that programme teams know how to refer students to professional and specialist support

Our 2011 survey found that students were much more likely to have sought help from a staff member on the programme than from friends, family, central student support services or administrative staff. Overall, student doubters were less likely to know where to go if they had a problem than non-doubters and there was a greater discrepancy for doubters between their perception of the importance of being able to access resources and their actual experience of being able to access resources. It is therefore of key importance that students have good communication with their tutor and that programme staff are well informed about the support that students can access including how and when referral to other services should be made.

Suggested actions

All members of the programme team periodically remind themselves of the services available and how to contact these teams.

- One of the programme teams, for example, circulates a Student Support Services guide, 'the Student Support Directory' amongst the team. *'We download it and send it to the programme team and point staff to it so they are aware… it is important for us not to think we can solve everything. It is good to know there is support out there'.*
- All staff are aware of how and where to refer students
- Link teaching staff in to support services and work closely with them where appropriate.
  - A programme, for example, introduces support available to students during induction. The School Learning Support Coordinator meets the students in the first week and students take part in an interactive session from Student Support Services that addresses issues of resilience and being supportive as a group. An early formative writing assessment also serves to highlight students who may have difficulties with writing and they are referred to Dyslexia Support Services if appropriate.

Recommendation:
Raise student awareness of the services available

Research has highlighted the role that student services can play in supporting the social integration of students, by 'helping students to locate each other (for example, mature students, international students), by providing social spaces, by offering more flexible and affordable accommodation options and by compensating for the informal support usually provided by networks of friends' (Thomas et al, 2002). Interviews with student doubters indicated that students were not always aware of the support available to them from support services, such as mature student events, and that part time students in particular sometimes felt overlooked as information was often aimed at full time students.

Suggested actions

- Promote services to students. It is recommended that this is done early in the first term, that students are reminded of support available at key 'at risk' times of the year.
- Ensure students have a copy of support available to refer to as needed
  - Examples activities include providing a spider diagram in induction week that identifies where students would go to for support with a specific problem and provision of an 'Unofficial Student Handbook'. This is an alternative format of the information that will help students during induction and the first few weeks of term. The handbook includes an understandable timetable for first week, what rooms the students need to find and pictures of staff. It is light hearted and contains only relevant information for the first week as staff do not believe that students look at the official university student handbook. It includes for example, the most essential regulations from the official university handbook, summarised in twenty main points, and information about what a lecture is, what a seminar is, what the floor numbers mean, how to find a room and campus and town maps.
- Information about support services from programmes is tailored to groups of students where appropriate.
  - Part time students, for example, suggested that their course material should contain information relevant to them such as fees, sponsorship, module credits and duration of course, to prevent them feeling 'side-lined'.

Summary

For more information about the findings of both the HERE project and, the National HE STEM Transition to HE project visit the websites included in the references list. Both projects identified the importance of staff-student relationships and student-student relationships all of which improve retention and this guide provides some examples of how programmes have successfully achieved these. The National HE STEM Transition project also emphasized the importance of pre-entry information and guidance including the importance of supporting young people's decision-making when choosing their course and university. STEM ambassadors also stressed the importance of ensuring that new first year students are given every opportunity to get up to speed with their subject, and the project identified a number of ways in which this could be achieved, for example, providing maths (and other subject) cafes. Whilst designing a transition/induction programme it is important also to ensure that there are opportunities built in for confidence building, and relevance to students' current interests and future goals (Thomas 2012). In her summary of the What Works programme, Thomas (2012:11) also stresses that such interventions have to be mainstreamed, proactive and developmental, relevant, be well timed and use appropriate media, be collaborative and finally 'the extent and quality of students' engagement should be monitored', which clearly aligns with the findings of both the HERE project and the National HE STEM Transition project outlined in this guide.

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Titles in this series

- *Happy landings: a transition advice guide for students*
- *Critical moments in the first year*
- *Setting up a Maths Support Centre*
- *Improving retention: the curriculum development perspective*
- *STEMming the doubts*
- *Optimising the part-time experience*
- *Social engagement to promote success in retention*
- *Building on data: an evidence-based approach to improving transition, induction and retention*

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