

Improving transition to higher education by developing students' academic self-concept

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Abstract

The generation of learners affected by the COVID-19 pandemic and associated restrictions has experienced educational inequalities which have impacted upon students' preparedness for study and increased the risk of them not making a success of their time at university.

In this study, focusing on the experiences of foundation year students, I review the literature on transition and the emerging evidence of the impact of the COVID-19 pandemic on transition, as well as some of the specific issues affecting foundation year students.

The key findings of the review were:

- Students studying on a foundation year are more likely to be disadvantaged and are more likely than their peers to have a reduced academic self-concept, subsequently being more at risk of underperforming or not progressing.
- Transition activities should be student-centred and provide informal opportunities for relationship building.

An intervention based on the review was devised and implemented, providing structured informal opportunities for students to interact with one-another and with academic staff. A small-scale study indicated that carefully planned transition activities and the creation of opportunities for frequent informal contact with academic staff may help develop students' academic self-concept and mitigate against these increased risks by creating opportunities for peer-supported learning, the development of effective study habits and by helping students develop a sense of belonging.

Transition to university

Transition is a widely used term to describe the passage of students into university life. Promoting effective transition is an increasing focus of work done in relation to access and participation planning and improving equality, diversity and inclusion. However, it is not an idea that is particularly well defined (Gale and Parker, 2014) or well-researched, despite an increasing body of research describing issues relating to it. Gale and Parker (2014) argue that transition to university can be considered in three components: induction, development and becoming. The first broadly describes work done by a university to orient students to that institution's expectations. The second describes students learning to navigate the sociocultural norms of student life, and can be characterised as a shift of identity, akin to the shift from childhood into adolescence. Seeing transition through either of these first two lenses leads to structural attempts to address transition issues (e.g. welcome week talks, induction programmes etc.) that mould students to institutional values and norms. The third component is an attempt to reconceptualise transition as an acknowledgment of the fluidity of learners' lives and requires approaches that are less structuralist than the first two components; these would necessitate a more student-centred view of transition.

Before joining a university, students have difficulty visualising and predicting the experience, and require support both before and after arrival in developing a learner identity and independence (Briggs, Clark, and Hall, 2012). While many arrive without the cultural capital to navigate the challenges of transition, students do adapt by developing new social support structures (Scanlon, 2007) but those that struggle to do this are at increased risk of dropping out.

Transition to university has been shown to impact upon students, in terms of an increase in psychological disturbance and an increase in absent-mindedness (Fisher and Hood, 1987). There is little available evidence of the effect of time upon the dissipation of these effects, but it is assumed that most students navigate this period and that the effect on attainment is partly mitigated against by the lack of contribution to the final degree classification from first year work. In a foundation year, where a student's transition to a degree course

depends on successfully meeting assessed progression criteria, it is not unreasonable to expect that there is a greater risk posed by the impact of transition.

The impact of the COVID-19 pandemic on transition

As identified by Cottle (2021), students progressing to university in the last two years have demonstrated great resilience in adapting to the rapidly changing educational conditions throughout the pandemic and most have worked hard to address any deficits from lost learning. While some have thrived on the opportunity for greater independence, teachers felt that some students were adversely affected by the absence of individual support throughout this period. Teachers identified several 'lacks', some subject-specific (e.g. missed curriculum content and practical skills), and others more general (such as group work, responding to feedback, preparing for assessments and differentiating between acceptable or routine anxieties and problematic anxiety).

Positively, dropout rates from university were seemingly unaffected in the 2020-21 academic year (Hillman, 2022) but students do report that the pandemic has negatively affected their lives. A negative impact on the knowledge they feel they need to succeed in their course was cited by 57% of students, with 73% citing a negative impact on their mental health (UPP Foundation, 2022). Further studies indicate a lower life satisfaction score among students than the rest of the population; this improved upon students' return to campus life in late 2021 but ongoing surveys report sustained high levels of loneliness and anxiety (Office for National Statistics, 2021).

Students' perceptions of the impact of the pandemic on their learning appear to be in line with other emerging evidence. The National Reference Test for English and Maths (Ofqual, 2021) is a sampling exercise done alongside the traditional GCSE period to provide an additional reference point for exam boards when setting grade boundaries. Although it could not be used in 2021 as no exams were sat, its results are still interesting as it indicated a significant drop in maths performance (interestingly, and counter-intuitively, this was not replicated in English). There is a chance that students' perceived subject-knowledge gaps from prior learning indicate real gaps in learning.

Students progressing to science-based degrees face additional challenges as they are unlikely to be as familiar with laboratory techniques and apparatus as might normally be expected. The cognitive load of university laboratories, which is always challenging to students coming from the 'recipe style' approach of school science (Smith, 2012) will be potentially greater, with a greater negative impact on students' confidence and self-esteem.

Educational inequalities and foundation years

As noted by John Blake, the new Director for Fair Access and Participation, universities have worked hard to widen access to under-represented groups, but have they done enough to ensure worthwhile participation (Office for Students, 2022)? In other words, are all students offered the support they need to succeed once at university? Foundation years are often cited as pathways to university for students who do not meet the usual entry requirements and regularly provide a route into higher education for older students. A foundation year is a year 0 at university, delivering modules at level three which enable learners to demonstrate they meet an institution's undergraduate entry requirements. They provide opportunities for young people whose schooling (for whatever reason) did not provide them with either the opportunities to achieve the grades required or the access to post-16 courses usually required for higher study. Foundation years often act as a route into higher education for underrepresented groups.

School- and college-aged students with a positive view of their own academic aptitude and achievements, widely defined as academic self-concept (ASC), are more likely to continue to higher education (regardless of their actual academic ability) (Chevalier, *et al.*, 2009). Students from deprived backgrounds are more likely to have a lower academic self-concept. These perceptions, generally formed via their interaction with and interpretation of their environment (Marsh and O'Mara-Eves, 2008), are shown to have a consistent reciprocal relationship with achievement and educational outcomes.

In the 2017/18 academic year, almost a third of foundation year students came from the most disadvantaged backgrounds (Husbands, 2021). This data is based on the Index of Multiple Deprivation; this is a reliable indicator as it encapsulates more factors than simply

the local rate of higher education participation at age 18 or 19, the POLAR4 measure typically used by universities. Students on a foundation year are therefore more likely to be disadvantaged than their peers on a non-foundation route.

Schools in disadvantaged areas report more issues with poorly qualified staff than those in other regions; this includes issues around recruitment and retention of suitably qualified teachers (Civinini, 2020). Consequently, fewer students from these areas can study courses offering them access to good degrees. These effects are further compounded by a lack of science capital in young people in these areas, which has been used to explain differential patterns of aspiration and participation (Archer, Dawson, DeWitt, Seakins, and Wong, 2015). Archer *et al.* argue that Bourdieusian notions of capital should be extended beyond the Arts; parallels can be drawn with Gale and Parker's (2014) idea of a 'becoming' model of transition which is akin to the Bourdieusian concept of 'changing the field'. Science capital broadly refers to the aggregate of an individual's science-related knowledge, attitudes and experiences, largely related to social class, and how these impact on young people's aspirations and participation in science. Bathmaker (2015) argues that the concept of 'field' is an important lens through which to consider HE practices around transition. Pierre Bourdieu's field theory describes society as being constructed of overlapping fields, each being a setting where individuals occupy specific social positions. An individual's position in any given field depends on the specific rules of the field, and an individual's habitus (their ingrained skills, habits and dispositions which determine how they perceive and react to any field they currently occupy) and capital (social, economic and cultural). In the context of transition to university, a first-generation student from an area of low higher education participation is likely to experience a very different transition to university compared with a student who may have attended a high-performing school in a high-participation region.

The factors previously described combine to provide a compelling argument that students entering a foundation year are more likely than their peers to have a reduced academic self-concept and be more at risk of underperforming or not progressing. The impact of the stress of transition is exacerbated in a foundation year by the short nature of the course. There is a strong case to be made for an enhanced level of support (changing the 'field' by adopting a

more student-centred approach) to help students on foundation years transition to university, develop the skills needed to succeed, develop their own learner-identities and gain a sense of belonging to an institution. Evidence emerging from studies on the COVID-affected generation of learners indicate that their academic self-concept has been impacted upon negatively too. While foundation year programmes are often billed as a means to transition to university for underrepresented learners, unless a programme of support is put in place to support this transition there is a risk that they have a detrimental effect on a young person's likelihood to remain in university. It is important therefore to gain an understanding of strategies that can support a positive transition to university and begin to address some of the educational inequalities that affect this generation of learners. Lessons learned from supporting foundation year students could be applied more broadly to support all students transitioning to higher education.

Strategies to support successful transition

Students value being able to develop relationships with teachers, and steps taken to foster collaborative learning through a phased induction process which includes informal contact with academics is shown to aid transition and help develop learner identity (Briggs, Clark, and Hall, 2012). Given that foundation year students are likely to be from a more diverse range of backgrounds than 'regular' first year students, it is important to adopt a 'becoming' mindset when devising strategies to aid their transition (Gale and Parker, 2014). This is reinforced by a study of twenty diverse institutions (Kuh *et al.*, 2010) that argued that successful integration of students depended upon offering opportunities to engage with academics and peers that were tailored to the specific needs of their students. It is therefore important to acknowledge and attempt to address some of the needs resulting from educational inequalities, both more generally and those caused by the pandemic.

A significant challenge to the development of informal relationships is identified by Skinner (2014). She argues that pre-university education affiliates students and teachers 'against' the exam board, allying to achieve goals. The obvious tension caused when tutors and lecturers are also responsible for assessment, and the contradiction of students valuing individual feedback but being unwilling to engage with it, can be alleviated by supportive

group tutorial relationships. Additionally, Skinner calls for university academics to develop a greater understanding of students' pre-university knowledge, skills and assessment expectations. These findings are reinforced by Rawlinson *et al.* (2014).

The beneficial impact of collaborative learning opportunities and engaging informally with academic staff on attainment, student satisfaction and retention are well documented in large-sample studies (Wasley, 2006), with a greater effect for students from underrepresented backgrounds. They are also identified as a key activity to address the 'lacks' resulting from COVID-related inequalities (Pownall, Harris, and Blundell-Birtill, 2021).

To support the introduction of the Engineering and Physical Sciences Futures programme (University of Birmingham, 2021), a fully-funded foundation year for those from the lowest-participation backgrounds, academic staff at the University of Birmingham introduced two new aspects to the existing foundation year. The first of these was a bespoke skills module (for EPS Futures students only) entitled 'Professional Skills for Engineering and Physical Sciences' that aimed to develop an understanding of professional skills, habits and competencies, and the ethical, environmental, social and cultural responsibilities of scientists through teaching, discussion and professional mentoring. The second was introduced as a 'Guided Study'; comprising of an informal Friday afternoon study group targeted at the EPS Futures students but open to all. There were always at least two academic staff present, and the goal was to create the opportunities described above to facilitate informal interaction between students and academics, and support students in developing peer relationships and their own academic self-concept.

The Guided Study session was timetabled immediately following a course studied by the whole cohort and held in a central glass-sided room in a literal attempt to increase its visibility. Attendance was suggested to students felt to be at risk of disengagement and promoted more generally by academic staff as a means to get more support with course content and work in a collaborative way. It was timetabled on a Friday afternoon and staff and students came to see the session as a 'bookend' to the week. This choice of timetable slot was deliberately chosen to help foster a degree of informality.

Methods

Students who attended Guided Study were invited to contribute to an informal focus group discussion to discuss the impact of the pandemic on their preparedness for university, and their confidence as learners. Four foundation year students attended and took part in a conversation lasting approximately one hour.

Findings

All students in the sample reported that, while they had initially had anxieties around their preparedness for higher study, their academic self-concept had developed over the course of two semesters, and they no longer reported any significant concerns. They raised the following points that reinforce earlier findings:

- Schools and colleges seemed generally unprepared for the switch to online provision; this resulted in online learning that was difficult to engage with.
- No students were positive about their preparedness for group learning activities.
- Most students reported anxiety in approaching assessments which has passed with time and exposure but did affect the outcomes of their early assessments.

All four students identified the positive relationships they had developed with academics on the course as critical to their development as learners. Some positive points they raised were:

- Weekly induction sessions at the start of the course allowed a space for informal discussion and clarification of expectations. All students identified that the opportunity to get to know academic staff in a non-academic setting was beneficial and helped foster relationships that led to better active engagement in lectures leading to more interaction.
- Weekly Guided Study provided a very useful space to work with other students and receive support from academic staff. Students felt that the informal approach taken was a key factor in its success.

- While formal office-hours were still a common offer of support from some academics on their programme, most students were reluctant to use these. For context, every year around 10-15 students make good use of office hours and demonstrate the confidence to approach lecturers and module leads. This represents about 10% of the foundation year cohort. In its first year, Guided Study attracted at least twice this number regularly. In its second year, approximately 50% of the cohort made use of it at least once.

Selected direct quotations from the focus group:

“I know it’s a load of people there [Guided Study], but you can get that one-on-one help. Where it suits a lot of people is like when you might not need one on one help, but have an interest, that’s not specific to a module, they can ask an academic – it’s the perfect opportunity to ask a question on say, physics, outside of a lecture, that may not be directly related to the course. It offers the opportunity to find the lecturer you want to speak to about a certain thing they might know quite a lot about... to develop an interest you may have. It does help quite a bit.”

“The main reason is, I can’t study at home, so I do most of my studying at Uni... ..when I know everything about a topic, or think I know, I still want to be around a lecturer, because I’m not a graduate yet. The lecturers there will give us a different angle or make it simpler than we can. When someone else asks a question and I hear the explanations given, it might be different to the way I do it, it opens my mind to a new way of thinking about it – I’m learning something – and it’s nice. I like that it’s informal. We have a chat. I like Guided Study. I think it’s good... ..but I like the opportunity to have you guys around me.”

“I went a lot in S1. I think it’s important that, if you have a question, no matter how braindead stupid it might feel, you can ask the question without feeling stupid.”

“I think the Guided Study is one of the best things on the course. You can show up, and even if it’s busy you can help each other. It’s a nice environment to work in.”

“Guided Study is like, 100% the best thing that you have to offer. Hands down. I didn’t expect that. It is useful. If students are shy, it’s the perfect opportunity. Office hours sounds formal.”

“It does worry me that next year I won’t have that interaction and that Guided Study. I know that the level of contact I have now won’t be there next year. It worries me.”

Conclusions and next steps

There is a compelling body of evidence to argue that foundation year students are more likely to need support to address educational inequalities to support their transition, attainment and retention, in terms of developing effective study habits, learner identities and a sense of belonging. Furthermore, the generational impact of the COVID-19 pandemic means more students will need more support, and that a project providing meaningful guided study coupled with an induction programme that focuses on study skills will address some of the issues to transition that the post-pandemic generation of students has encountered, and more widely address systemic inequalities in pre-university education. There is strong evidence that transition is enhanced, learning enabled and a sense of belonging developed, by group activity that includes a phased induction, clear information sharing, personal contact with academic staff and formative feedback (Briggs, Clark, and Hall, 2012). Going forward it would be good to undertake a longitudinal study working with new students to ascertain their ideation of what university life will be like, assess their pre-university skills and learning habits and work with them to devise a transition process to best meet their needs.

References

- Archer, L., Dawson, E., DeWitt, J., Seakins, A., and Wong, B. (2015). ‘ “Science capital”: A conceptual, methodological, and empirical argument for extending bourdieusian notions of capital beyond the arts’, *Journal of Research in Science Teaching*, 52(7), pp. 922-948. doi:10.1002/tea.21227
- Bathmaker, A.-M. (2015) ‘Thinking with Bourdieu: thinking after Bourdieu. Using ‘field’ to consider in/equalities in the changing field of English higher education’, *Cambridge Journal of Education*, 45(1), pp. 61-80. doi:10.1080/0305764X.2014.988683
- Briggs, A. R., Clark, J., and Hall, I. (2012) ‘Building bridges: Understanding student transition to university’, *Quality in Higher Education*, 18(1), pp. 3-21. doi:10.1080/13538322.2011.614468

- Chevalier, A., Gibbons, S., Thorpe, A., Snell, M., and Hoskins, S. (2009) 'Students' academic self-perception', *Economics of Education Review*, 28, pp. 716-727. doi:10.1016/j.econedurev.2009.06.007
- Civinini, C. (2020) 'Pisa: Teacher shortages more uneven in the UK', *Times Education Supplement*. Available at: <https://www.tes.com/news/pisa-teacher-shortages-more-uneven-uk> (Accessed: 14 May 2021)
- Cottle, D. (2021) 'The effects of Covid-19 on student transition from school to university in STEM subjects', *New Directions in the Teaching of Physical Sciences*, 16(1), pp. 1-4, doi:10.29311/ndtps.v0i14.3847
- Fisher, S., and Hood, B. M. (1987) 'The stress of the transition to university: A longitudinal study of psychological disturbance, absent mindedness and vulnerability to homesickness', *British Journal of Psychology*, 78(4), pp. 425-441. doi:10.1111/j.2044-8295.1987.tb02260.x.
- Gale, T., and Parker, S. (2014) 'Navigating change: a typology of student transition in higher education', *Studies in Higher Education*, 39(5), pp.734-753. doi:10.1080/03075079.2012.721351
- Hillman, N. (2022) *Five common predictions about COVID and education that now appear to be wrong*. Available at: <https://www.hepi.ac.uk/2022/01/18/five-predictions-about-covid-and-education-that-turned-out-to-be-wrong/> (Accessed: 21 February 2022)
- Husbands, C. (2021) *The case for putting foundation years on more stable ground*. Available at: <https://www.hepi.ac.uk/2021/05/20/the-case-for-putting-foundation-years-on-more-stable-ground/> (Accessed: 24 February 2022)
- Kuh, G. D., Kinzie, J., Schuh, J. H., and Whitt, E. J. (2010) *Student Success in College: Creating Conditions That Matter*. San Francisco: Jossey-Bass.
- Marsh, H., and O'Mara-Eves, A. (2008) 'Reciprocal Effects Between Academic Self-Concept, Self-Esteem, Achievement, and Attainment Over Seven Adolescent Years: Unidimensional and Multidimensional Perspectives of Self-Concept', *Personality and Social Psychology Bulletin*, 34(4), pp. 542-552. doi:10.1177/0146167207312313
- Office for National Statistics (2021) *Coronavirus and higher education students*. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandwellbeing/datasets/coronavirusandhighereducationstudents> (Accessed: 24 February 2022)
- Office for Students (2022) *Next steps in access and participation*. Available at: <https://www.officeforstudents.org.uk/news-blog-and-events/press-and-media/next-steps-in-access-and-participation/> (Accessed: 23 February, 2022)
- Ofqual (2021) *National Reference Test Results Digest 2021*. Available at: <https://www.gov.uk/government/publications/the-national-reference-test-in-2021/national-reference-test-results-digest-2021#performance-in-maths-in-2021> (Accessed: 24 February 2022)
- Pownall, M., Harris, R., and Blundell-Birtill, P. (2021) 'Supporting students during the transition to university in COVID-19; 5 key considerations and recommendations for educators', *Psychology Learning and Teaching*. doi:<https://doi.org/10.1177/14757257211032486>
- Rawlinson, M., Dodman, T., Gretton, N., Rooney, S., Bartle, C., and Guihen, L. (2014) 'What goes on in 'Guided independent study?', *Journal for excellence in Teaching and Learning*, pp. 1-32. Available at: <https://www2.le.ac.uk/offices/lli/recognition-for-teaching/teaching-excellence-microsite/reports-resources/what-goes-on-in-guided-independent-study/view> (Accessed: 22February, 2022)
- Scanlon, L. (2007). 'You don't have like an identity ... you are just lost in a crowd': Forming a Student Identity in the First-year Transition to University', *Journal of Youth Studies*, 10(2). doi:10.1080/13676260600983684

Skinner, K. (2014) 'Bridging gaps and jumping through hoops: First-year History students' expectations and perceptions of assessment and feedback in a research-intensive UK university', *Arts and Humanities in Higher Education*, 13(4), pp. 359-376. doi:10.1177/1474022214531502

Smith, C. J. (2012) 'Improving the school-to-university transition: using a problem-based approach to teach practical skills whilst simultaneously developing students' independent study skills', *Chemistry Education Research and Practice*, 13, pp. 490-499. doi:10.1039/C2RP20096A

University of Birmingham. (2021) EPS Futures Foundation Year. Available at: <https://www.birmingham.ac.uk/undergraduate/courses/fd/futures-foundation.aspx> (Accessed: 2 March 2022)

University of Birmingham (2021) More Engineers in Birmingham: Help more talented young people become world-changing engineers. Available at: <https://www.birmingham.ac.uk/birmingham-in-action/projects/eps-futures.aspx> (Accessed: 2 March 2022)

UPP Foundation (2022) *A Student Futures Manifesto*. London: UPP Foundation Student Futures Commission.

Wasley, P. (2006) 'Underrepresented students benefit most from engagement', *The Chronicle of Higher Education*. Available at: <https://www.chronicle.com/article/underrepresented-students-benefit-most-from-engagement/#:~:text=Students%20who%20participate%20in%20collaborative,likely%20to%20remain%20in%20college.> (Accessed: 12 March 2022)