

Join the Dots

Impact report

2023-2024



May 2024



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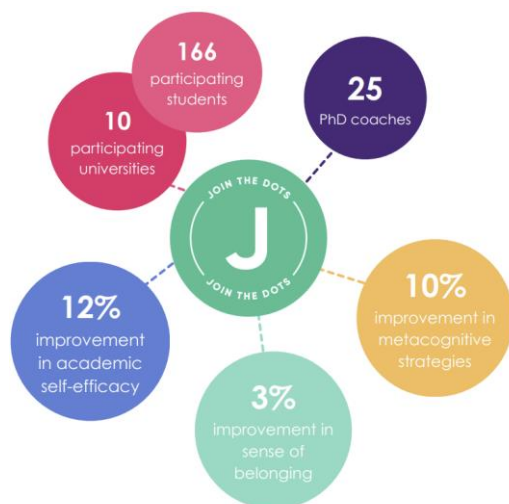
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1. Introduction

Higher education completion rates in the United Kingdom have been historically positive. However, there are stark disparities: students from under-resourced backgrounds and underrepresented groups are more likely to drop out compared to their more advantaged peers. This discrepancy also affects their degree outcomes and post-university progression. The quality of support at university significantly impacts students' experiences and outcomes. There is a strong need to have a uniform national high quality support system for students, irrespective of where they do they come from and which university they study.

Evidence shows that students with high self-efficacy, metacognition and sense of belonging are more likely to succeed at university. These form the foundation of our university transition programme, Join the Dots, which supports students in the critical period of stepping into university. This report for the 2023-24 academic year outlines the impact of Join the Dots in its second year. With our ten-university partners, we have supported 166 students to navigate the opportunities and challenges of making the transition to university.

We are delighted that Join the Dots shows **strong results** in key areas of student development, including a statistically significant improvement in **academic self-efficacy (+12%)** and **metacognitive strategies (+10%)**, along with a **3% rise in students' sense of belonging**. These outcomes reflect our commitment to not only academic preparation but also to fostering a supportive and inclusive university experience. Here are the headline figures:



As we prepare for the next academic year, we are excited to reach an ambitious target of 500 students, aiming to build on our successes and learn from the insights gained to continue making a meaningful impact. Thank you for your interest and support in this transformative programme. If you have questions or would like to learn more about our future, please contact me:

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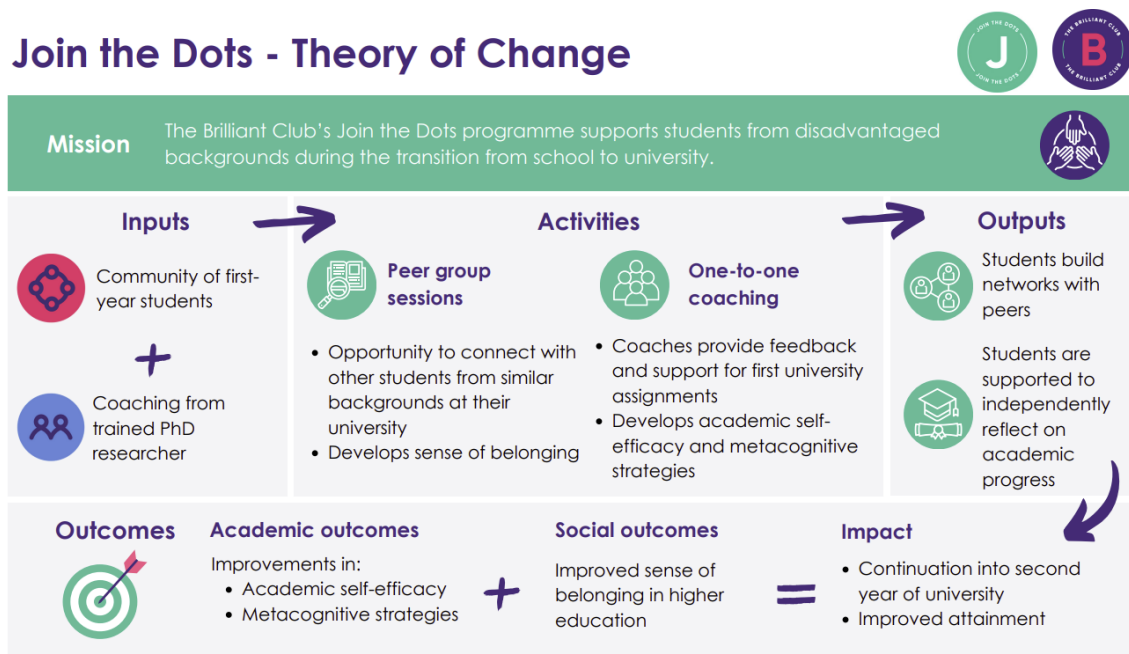
2. Programme Overview

Join the Dots is a national university transition programme run by The Brilliant Club, built on the principles of community, connections, and coaching. It is targeted at students who are most likely to face barriers in making a successful transition to university, and who are at risk of missing out on the life-changing opportunities that come from successfully earning a university degree.

Join the Dots **connects** schools, universities, and students to share knowledge and set goals for a successful transition. It builds **communities** of students to identify, discuss and address shared challenges. Through 1:1 and peer group **coaching** by a PhD researcher, it helps students to develop key university study strategies and access university support as needed. By joining these dots, we are building networks that support students to thrive in higher education study.

In 2023-24 we ran the second cohort of Join the Dots, in partnership with ten universities: Durham University, Goldsmiths University, King's College London, Leeds Trinity University, Liverpool John Moores University, Sheffield University, University of Essex, University of Manchester, University of Bristol and University of Kent. In total, 166 students across ten universities participated in Join the Dots.

The programme aims to enhance two key sets of outcomes - academic and social outcomes - that underpin success at university. Please see our Theory of Change model below:¹



¹ Please see the following literature review from TASO which provides additional information about the outcomes chosen for this programme: [Understanding the impact of interventions to address inequality in the student experience \(pcdn.co\)](https://www.pcdn.co/understanding-the-impact-of-interventions-to-address-inequality-in-the-student-experience).

The interconnectedness of academic outcomes (i.e., academic self-efficacy, and metacognitive strategies) and social outcomes – sense of belonging – highlights a multifaceted approach to supporting student success in higher education. As students navigate the complexities of university life, these factors collectively play a pivotal role in their ability to complete their degrees and achieve academic excellence. The evidence suggests that interventions aimed at enhancing these core outcomes can lead to significant improvements in long-term academic achievements (Thomson et al., 2022). These areas of support should be prioritised in student support initiatives to foster an environment conducive to success for all students, particularly those from disadvantaged backgrounds.

2.1 Student demographics

The demographic analysis of the Join the Dots participants reveals that **76%** of the students met one or more of the program's targeting criteria. These criteria include eligibility for Pupil Premium, lacking a familial history of higher education or coming from areas identified as highly deprived according to the Income Deprivation Affecting Children Index (IDACI). This diverse student composition underscores the programme's commitment to supporting those most in need of educational opportunities.



Pupil Premium

30%
(31/105)



No parental history of higher education

61%
(65/106)



Living in 40% most deprived areas according to IDACI

59%
(96/163)



Target Pupils meeting 1 or more of 3 criteria

1+: 76%
2+: 44%
3: 22%

Note: Sample sizes vary based on if a student provided the relevant information.

Below shows the demographic breakdown by further characteristics:

Additional demographic information	Join the Dots Percent	HESA 2021/22 Percent
Index of Multiple Deprivation (IMD) – Bottom two quintiles	55%	40%
Male	25%	43%
Female	70%	57%
Other / prefer not to say	5%	N/A
Black, African, Caribbean, Black British	11%	8%
Asian, Asian British	25%	12%
White	52%	73%
Mixed / other / prefer not to say	12%	7%

Note: Some groupings are combined due to small sample sizes. Sample sizes vary based on if a student provided the relevant information. HESA data is from HESA: UK, 2021/22 – Student numbers and characteristics. The HESA data shows the percentage of students defined as the characteristics for enrolled higher education students in 2021/22. The data should be interpreted with caution, as demographic data was not available for all students and the amount of data available varied between categories. Sample sizes vary based on type of information as not all participating students provided all demographic information.

Comparing the Join the Dots students above to the demographics of students enrolled in higher education in 2021/22 (HESA data), Join the Dots students are comprised of **more females** than the average university student (70% vs 57% in HESA) and are **more ethnically diverse**. Join the Dots has over **twice the proportion of Asian students** than the general university population. Additionally, a **greater percentage** of Join the Dots students come from **Black and Mixed ethnic backgrounds** than found in the general university population.

Participating university	Join the Dots students
Durham University	32
Goldsmiths University	3
King's College London	23
Leeds Trinity University	2
Liverpool John Moores University	2
Sheffield University	29
The University of Essex	5
The University of Manchester	16
University of Bristol	50
University of Kent	5

3. University Transition Programmes

University Transition Programmes help students navigate their higher education journey. Transitioning to university can be a challenging experience for students. Below we provide a brief review on the importance of transition programmes and their impact. This review underpins the programme decision and decisions of Join the Dots.

3.1 Importance of University Transition Programmes

Many university dropouts occur either during or just after the first year of studies, a trend that underscores the critical transition phase students face upon entering higher education (van der Zanden et al., 2018). This challenge is particularly pronounced among students from disadvantaged backgrounds, who exhibit higher withdrawal rates. Specifically, analysis of non-continuation rates for 2020-21 university entrants reveals a stark disparity: 10.7% of students from areas with historically low university participation (TUNDRA Q1) leave after their first year, compared to only 7.0% from areas with high participation rates (TUNDRA Q5) (Office for Students, 2023). Furthermore, the dropout rate for students previously eligible for Free School Meals (FSM) stands at 12.7%, nearly double the 7.4% observed among their non-FSM counterparts (Office for Students, 2023). Similarly, students from ethnic minority backgrounds and students with disabilities both have lower continuation rates than their white or non-disabled peers (Hillman, 2024). As the financial and emotional cost of dropping out is so high, these statistics highlight the urgent need for targeted support mechanisms aimed at encouraging persistence and academic success amongst vulnerable student groups at the outset of their university journey.

3.2 Impact of University Transition Programmes

Evidence shows that targeted interventions at the transition stage can have a positive impact on sense of belonging and academic achievement (Marksteiner et al., 2019; van Lamoen et al., 2024). Students who have higher sense of belonging have shown increased academic achievement and retention. Notably, Marksteiner et al. (2019) discovered that sustained support post transition, especially for students from less advantaged backgrounds, enhances their sense of belonging. Apriceno et al. (2020) found that mentoring during their transition to HE led to higher levels of academic self-efficacy and sense of belonging. Students with high academic self-efficacy are more likely to select challenging tasks, persist during difficult tasks and adapt effective learning strategies when faced with failure.

A 2017 meta-analysis analysed 3 different interventions to improve the transition of students to higher education – of those mentorship programmes like Join the Dots were shown to have the most significant impact on student continuation rates (Sneyers & De Witte, 2018).

4. Programme impact

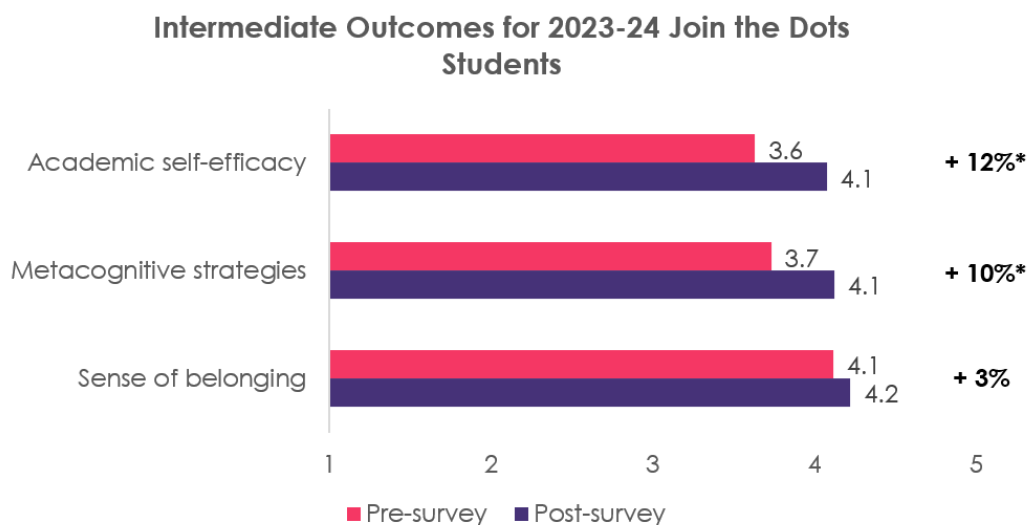
Join the Dots supports university students to develop key academic and social outcomes that research shows are associated with attainment.

Academic self-efficacy	Academic self-efficacy is the confidence in one's ability to succeed academically.
Metacognitive strategies	Metacognitive strategies are the ability to plan, monitor, and direct their own learning.
Sense of belonging	The extent to which individuals feel connected to the university environment, peers, and others, and part of the community.

Academic self-efficacy, metacognitive strategies and sense of belonging are measured in a self-report survey, completed by the students at the beginning and end of the programme. Metacognitive strategies and sense of belonging are validated measures from TASO's Access and Success Questionnaire which The Brilliant Club led the development of with TASO and other researchers.

4.1 Student progress

In total, 57 students responded to the pre, and post evaluation survey and their responses are shown in the following sections. Comparing the responses between the pre- and post-survey shows a **statistically significant increase in academic self-efficacy (+12%) and metacognitive strategies (+10%)** over the course of the programme. There was also an overall **increase in students' sense of belonging (3%)**. The following sections dive deeper into each outcome showing the students' responses to the individual questions which make up these three measures.

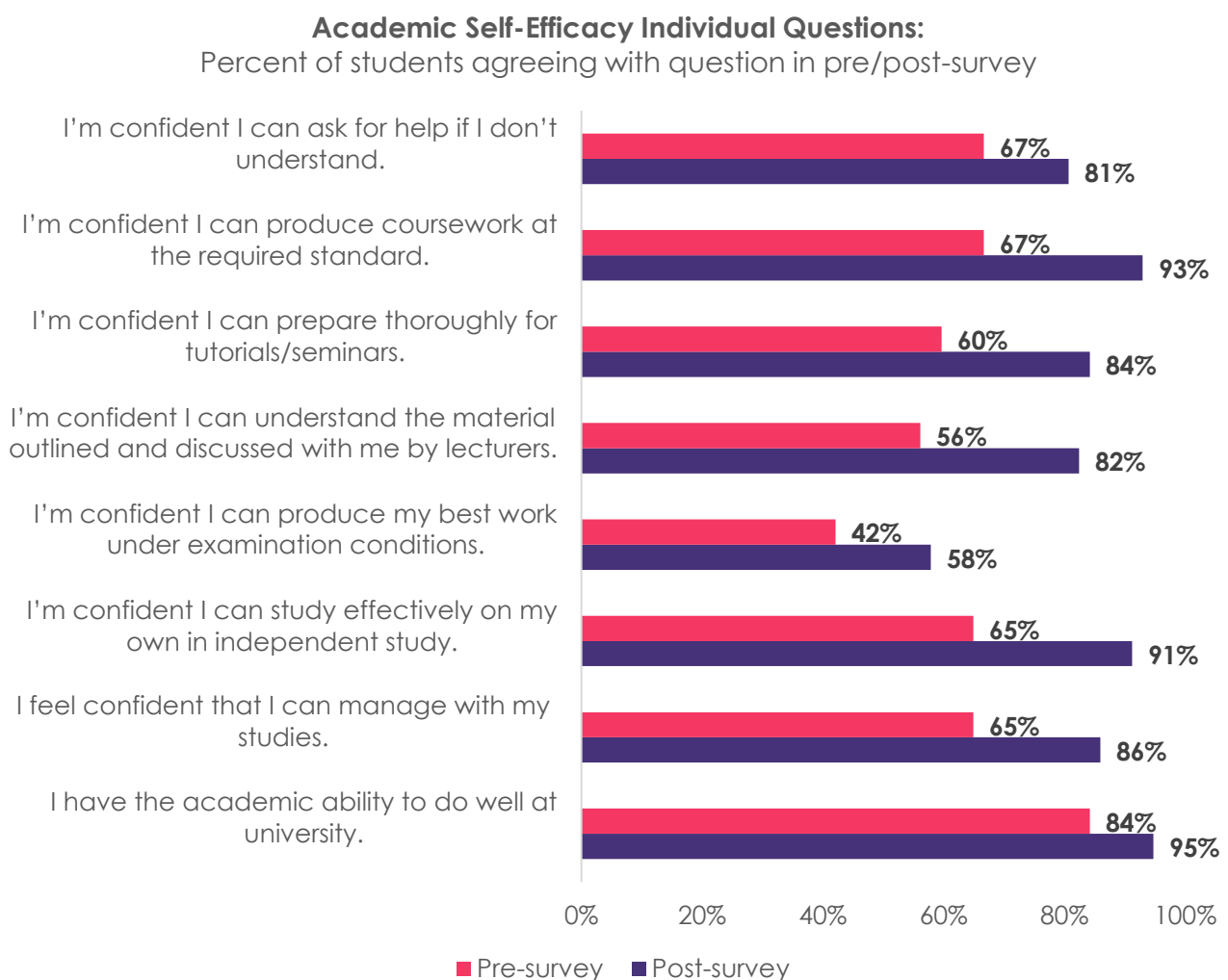


Notes: This chart shows the pre/post survey results for 57 students with pre and post surveys. Students were asked to respond on a scale 1-5 from (1) strongly disagree, (2) disagree, (3) neither disagree nor agree, (4) agree or (5) strongly agree for individual questions which make up the indices: metacognitive strategies, sense of belonging and academic self-efficacy. This chart shows the average score for each index. * denotes statistical significance.

4.2 Academic self-efficacy

Enhancing academic self-efficacy, or the confidence students have in their ability to achieve academically, is a central objective of Join the Dots. Academic self-efficacy is crucial as it is linked to educational attainment at various stages and is a robust predictor of student persistence and GPA achievements (Thomson et al., 2022; Burrus et al., 2013; Robbins et al., 2004; Abraham et al., 2013). Our measure of academic self-efficacy incorporates questions about asking for help, coursework production, exam preparation, independent study, tutorial preparation and overall academic ability.

The below chart shows the proportion of students agreeing or strongly agreeing with each statement at the beginning and end of the programme:



Notes: This shows the pre/post survey results for 57 students with pre/post surveys. Students were asked to respond on a scale 1-5 from (1) strongly disagree, (2) disagree, (3) neither disagree nor agree, (4) agree or (5) strongly agree. These results show the percentage of the 57 students who responded as agree or strongly agree to each statement.

Comparing responses to academic self-efficacy questions in the pre and post surveys shows that academic self-efficacy **increased in all statements**, as measured by changes in the percentage of students agreeing or strongly agreeing. Notably, the **confidence** in producing coursework to the required standard **increased dramatically, from 67% at the outset to 93%** at the end, marking a substantial **26-percentage point increase**. Similarly, the **confidence in studying** effectively rose from **65% to 91%**.

These results from the pre- and post-programme surveys illustrate a substantial enhancement in students' academic self-efficacy, demonstrating the effectiveness of the Join the Dots programme in boosting the students' confidence across a wide range of academic activities. Such improvements are indicative of the programme's significant impact on students' preparedness and confidence in navigating the academic challenges of university life. This broad enhancement of self-efficacy not only prepares students for immediate academic tasks but also builds a foundation for long-term academic success.

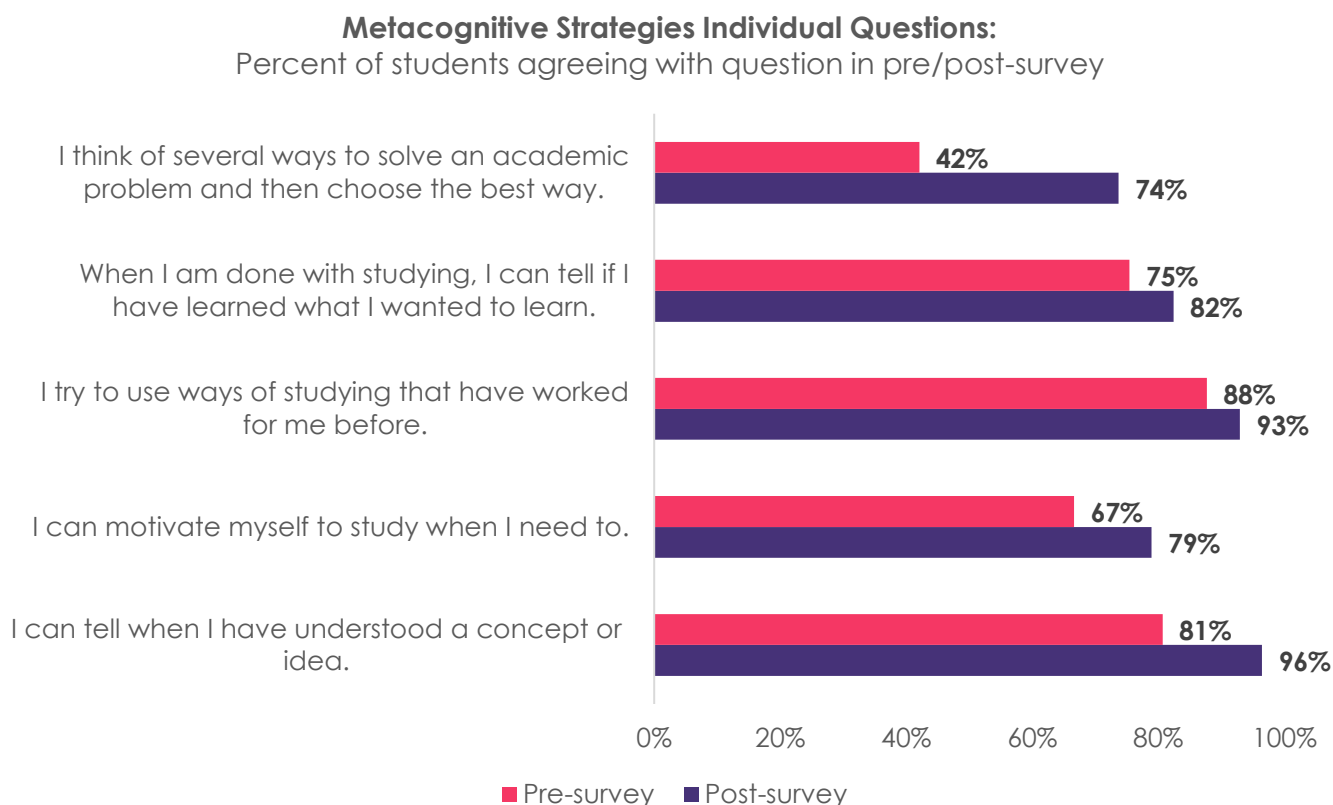
Students felt supported by their coaches:



4.3 Metacognitive strategies

A crucial focus of the Join the Dots program is the enhancement of students' metacognitive strategies, which involve the ability to plan, monitor, and adjust one's own learning effectively (TASO Access and Success Questionnaire). Metacognition is a critical element of self-regulated learning, characterized by active control over the cognitive processes engaged in learning (Kane et al., 2014). Understanding and regulating one's learning approaches is not only pivotal for academic success (Perry et al., 2018; Muijs & Bokhove, 2020) but is also closely linked to student retention (Franklin et al., 2018).

To assess progress in metacognitive strategies, we used TASO's validated measure from the Access and Success Questionnaire. This measure incorporates questions on: problem solving, learning assessment, using known study methods, study motivation and conceptual understanding. The below chart shows the proportion of students agreeing or strongly agreeing with each statement at the beginning and end of the programme:



Notes: This shows the pre/post survey results for 57 students with pre/post surveys. Students were asked to respond on a scale 1-5 from (1) strongly disagree, (2) disagree, (3) neither disagree nor agree, (4) agree or (5) strongly agree. These results show the percentage of the 57 students who responded as agree or strongly agree to each statement.

Comparing responses to metacognitive strategy questions between the pre and post-surveys shows that metacognitive strategies increased in all statements, as measured by changes in the percentage of students agreeing or strongly agreeing. For instance, the **substantial increase in students' ability** to understand and assess their grasp of concepts—from **81% to an impressive 96%**—underscores significant advances in their learning autonomy. Such progress is instrumental in fostering a higher level of engagement and independence in learning, essential for navigating the challenges of higher education.

The overall improvement across all metacognitive aspects examined in this study signifies a meaningful impact on the students' academic journey, suggesting that Join the Dots successfully empowers students with the skills needed to thrive in a university setting. This boost in metacognitive capabilities not only supports academic success but also contributes to a sustainable, self-sufficient learning process, essential for long-term educational and career achievements.

Students' reflections on academic improvements:



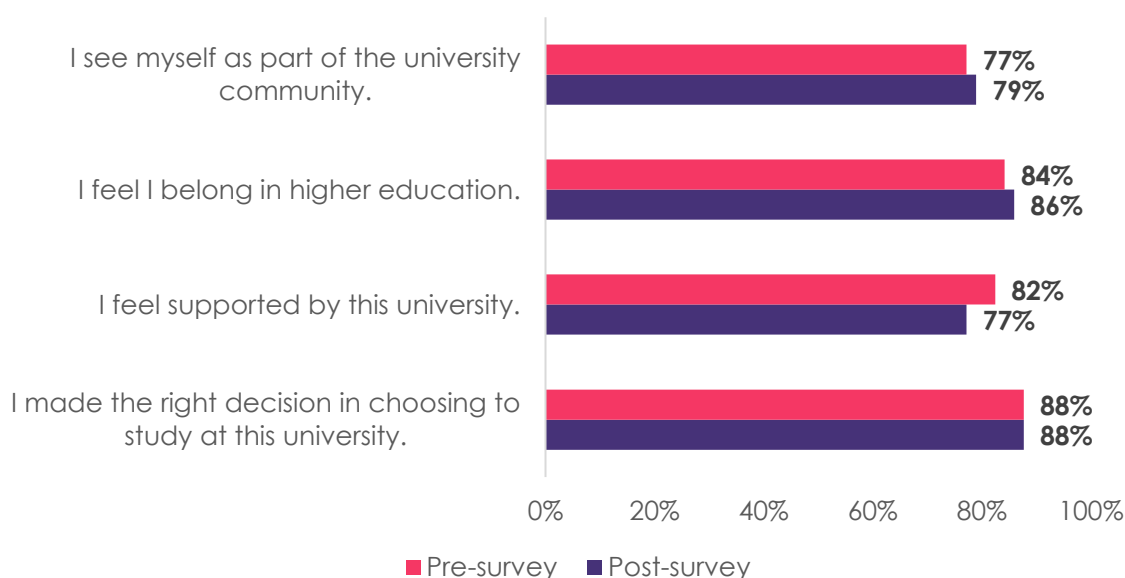
4.4 Sense of belonging

The sense of belonging is a critical determinant of student retention and success, referring to the extent students feel integrated within their university community—academically, socially, and emotionally (Goodenow, 1993; Lotkowski et al., 2004). A strong sense of belonging has been linked to higher retention rates and academic success, particularly among minority and first-generation students (Hausmann et al., 2007; Murphy et al., 2020). Effective interventions aimed at enhancing this sense of belonging have been shown to improve not only GPA scores but also overall student well-being (Walton & Cohen, 2011).

To assess progress in sense of belonging, we used TASO's validated measure from the Access and Success Questionnaire. This measure incorporates questions on community integration, belonging in higher education, university support and confidence in university choice. The below chart shows the proportion of students agreeing or strongly agreeing with each statement at the beginning and end of the programme:

Sense of Belonging Individual Questions:

Percent of students agreeing with question in pre/post-survey



These results indicate subtle yet positive shifts in how students perceive their integration and acceptance within the university environment. However, the already high baseline scores in the pre-survey suggest that there is less room for improvement, which may explain the smaller changes observed compared to other areas like academic self-efficacy and metacognitive strategies. This stability, particularly in students' confidence in their university choice, underscores a strong initial sense of belonging which the programme has successfully maintained and slightly enhanced. This foundation is crucial for student persistence and success, suggesting that continuing efforts to strengthen these feelings of belonging are well placed.

Coaches reflect on impact:

"For the students that were engaged it felt I was able to really have an impact on their first term of University and in some I saw a massive change from quite overloaded and stressed to managing their workload much better."

"I thoroughly enjoyed it, had great materials to work with and enjoyed making a positive difference."

"I think students benefitted from having tailored sessions to discuss their own needs and to design their own learning plan."

"I had a good time participating in Join the Dots, as I could see the students becoming more confident and comfortable in university as the semester went on, and I felt like I was really able to help."

"I found the 1:1's the most successful sessions with the students - they liked the space to talk without others listening. It felt like a safer space to voice their worries/fears/concerns."

5. Conclusion

The Join the Dots impact report for 2023-2024 shows the programme's significant strides toward enhancing university transition support for students from diverse backgrounds. By fostering critical academic and social skills such as academic self-efficacy, metacognitive strategies, and a sense of belonging, the programme has demonstrated its effectiveness in nurturing the academic and social integration of students into higher education environments.

The positive shifts in students' confidence in their academic abilities and their increased engagement with metacognitive strategies underscore the success of the initiative. Moreover, the subtle yet important improvements in students' sense of belonging highlight the ongoing necessity for tailored support that aligns with individual and community needs.

As the programme moves forward, it is important to continue expanding support to ensure that all students can navigate the complexities of university life successfully. The collective effort of the participating universities and the dedicated team behind Join the Dots has set a robust foundation for future cohorts, aiming to transform potential into success at a critical stage in the educational journey of students. This endeavour not only enhances individual academic careers but also contributes to a more inclusive and equitable higher education system.

6. Bibliography

A statistical overview of higher education in England - Office for Students.

<https://www.officeforstudents.org.uk/publications/annual-review-2022/a-statistical-overview-of-higher-education-in-england/>.

Apriceno, MaryBeth, Sheri R. Levy, and Bonita London. "Mentorship During College Transition Predicts Academic Self-Efficacy and Sense of Belonging Among STEM Students." *Journal of College Student Development* 61, no. 5 (2020): 643-648.

Burrus, J., Elliott, D., Brenneman, M., Markle, R., Carney, L., Moore, G., ... & Roberts, R. D. (2013). Putting and keeping students on track: Toward a comprehensive model of college persistence and goal attainment. *ETS Research Report Series*, 2013(1), i-61.

Goodenow, C., & Grady, K. E. (1993). The relationship of school belonging and friends' values to academic motivation among urban adolescent students. *The journal of experimental education*, 62(1), 60-71.

Hillman, N. (2024). 'Dropouts or stopouts or comebackers or potential completers?': Non-continuation of students in the UK. *HEPI Policy Note* 53

HESA. (2023). Higher education student statistics: UK, 2021/22 – Student numbers and characteristics. [Higher Education Student Statistics: UK, 2021/22 - Student numbers and characteristics | HESA](#)

- Hausmann, L. R., Schofield, J. W., & Woods, R. L. (2007). Sense of belonging as a predictor of intentions to persist among African American and White first-year college students. *Research in higher education*, 48(7), 803-839.
- Lotkowski, V. A., Robbins, S. B., & Noeth, R. J. (2004). The Role of Academic and Non-Academic Factors in Improving College Retention. ACT Policy Report. *American College Testing ACT Inc.*
- Marksteiner, T., Janke, S. and Dickhäuser, O. (2019). 'Effects of a brief psychological intervention on students' sense of belonging and educational outcomes: The role of students' migration and educational background', *Journal of School Psychology*, 75, pp. 41–57. doi:10.1016/j.jsp.2019.06.002.
- Muijs, D. and Bokhove, C. (2020). *Metacognition and Self-Regulation: Evidence Review. London: Education Endowment Foundation.*
- Murphy, M. C., Gopalan, M., Carter, E. R., Emerson, K. T., Bottoms, B. L., & Walton, G. M. (2020). A customized belonging intervention improves retention of socially disadvantaged students at a broad-access university. *Science Advances*, 6(29), eaba4677.
- Office for Students. (2023). Access and participation data dashboard. [Access and participation data dashboard - Office for Students](#)
- Perry, J., Lundie, D., & Golder, G. (2019). Metacognition in schools: what does the literature suggest about the effectiveness of teaching metacognition in schools? *Educational Review*, 71(4), 483–500.
- Richardson, M., & Abraham, C. (2013). Modeling antecedents of university students' study behavior and grade point average. *Journal of Applied Social Psychology*, 43(3), 626-637.
- Robbins, S. B., Lauver, K., Le, H., Davis, D., Langley, R., & Carlstrom, A. (2004). Do psychosocial and study skill factors predict college outcomes? A meta-analysis. *Psychological bulletin*, 130(2), 261.
- Sneyers, E. and De Witte, K. (2018) 'Interventions in higher education and their effect on student success: a meta-analysis', *Educational Review*, 70(2), pp. 208–228. doi: 10.1080/00131911.2017.1300874.
- Thomson, H., Bellaera, L., Ilie, S., Maragkou, K. (2022). Rapid review: Intermediate outcomes for higher education access and success. *TASO*.
- Van der Zanden, Petrie JAC, et al. "Domains and predictors of first-year student success: A systematic review." *Educational Research Review* 23 (2018): 57-77.
- van Lamoen, P. M. et al. (2024) 'Supporting students' transition to higher education: the effects of a pre-academic programme on sense of belonging, academic self-efficacy, and academic achievement', *European Journal of Higher Education*, pp. 1–22.
- Walton, G. M., & Cohen, G. L. (2011). A brief social-belonging intervention improves academic and health outcomes of minority students. *Science*, 331(6023), 1447-1451.

