

Engaging in First Year: A Mixed-Methods Case Study at a Scottish University

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Abstract

This case study presents a pilot study on exploring student engagement and belonging across three first-year cohorts at a Scottish university: traditional business undergraduates, foundation year students and data science graduate apprentices. Engagement is understood through affective, cognitive and behavioural dimensions (Kahu, 2013) and reflects recent complexities in higher education as a result of diverse student demographics and pandemic-driven shifts in learning (Hollister *et al.*, 2022). The research combines survey data and interviews to analyse students' academic and social experiences, emphasising the importance of belonging, teaching quality and flexible learning environments.

Findings indicate that, though most students are fully engaged, the rest (a significant proportion) neither integrate well with university nor build supportive social networks for themselves. Students value interactive teaching, institutional understanding of their outside commitments and provision of extra-curricular activities that are accessible and foster community. Recommendations include transitioning to active learning, increased faculty training, promotion of clubs and societies, peer mentoring and personalised support mechanisms for disengaged students. By foregrounding student voice, the study contributes insights into the overlap between engagement, belonging and institutional practice, aiming to inform strategies/frameworks that enhance success for all cohorts in a changing educational context.

Key words: student belonging, social and academic engagement, cross-faculty perspectives, flexible learning

Introduction

Student engagement has been theorised as a relationship between the affective (including belonging), the cognitive (including deep learning) and the behavioural (including interaction) (Kahu, 2013). In recent years, this relationship has increased in complexity as the higher education (HE) student body has become more diverse as a result of initiatives to expand entry opportunities, including graduate-level apprenticeships (GLAs) – launched in 2017 in Scotland – which enable those employed by sponsoring organisations to access HE one day a week to work towards an undergraduate degree (Scottish Government, 2017). Additionally, foundation courses, undertaken as a preparatory year of study prior to an undergraduate degree, have become popular for students who narrowly miss direct entry requirements (Freeman, 2024). At our university (Heriot-Watt), students who successfully complete foundation progress into the second year of an undergraduate degree. Recent changes in how

students engage in HE may also be linked to adaptations made during the COVID pandemic, which are described by Hollister *et al.* (2022).

We decided to explore the complexities of engagement through three cohorts of first-year students. These cohorts were (as given in table 1):

- undergraduate students from a module offered across the Business School
- foundation students
- data science: graduate apprentices (referred to as apprentices)

All students were at the end of their first year and so had just experienced the period of transition into HE described by Wilcox *et al.* (2005). We hoped that the diverse population set would provide rich data to develop understanding of the diversity behind the term 'first-year students' and how they may engage academically and socially. The apprentices experienced frequent online delivery as part of their part-time degree, whereas the business school undergraduates and foundation students had more campus-based delivery, with resources available in a virtual learning environment (VLE).

We are based in different parts of the same university, each working within a distinct undergraduate programme context. One author is located in a department which provides access through foundation courses to degrees across the wider institution. Another is based in a graduate apprenticeship programme in data science - a scheme unique to the Scottish HE system - where students study while employed by sponsoring organisations, entering university at varying ages and career stages. The third author works within the university's business school, where students typically enter through conventional routes from school into the first year.

The project received internal funding to appoint a research assistant, who conducted interviews with participants to mitigate potential bias and provide an authentic research opportunity. Ethical approval was sought and obtained from one of the component faculties. While the project was designed with the intention and budget to recruit a larger cohort, recruitment proved challenging despite a range of ethically approved efforts to promote participation. The study offers insights into student belonging and engagement across diverse educational pathways, with the aim of informing staff practice and institutional learning.

Literature review

Student engagement and belonging have emerged as a central concern in HE (Tinto, 1975; Strayhorn, 2018). In the wake of the COVID-19 pandemic and associated disruption to campus life, belonging is increasingly recognised not only as a psychological need but as a key factor influencing student engagement, retention and wellbeing. This review explores several relevant aspects from the literature on belonging and engagement, situating our case study within current debates about institutional culture, online learning and student expectations.

Wilcox, Winn, and Fyvie-Gauld (2005) offer one of the earliest and most influential studies of social support in the first-year experience. They argue that peer relationships are often more important than institutional efforts in helping students feel they belong. Their findings remain applicable today, especially as universities seek to rebuild community after prolonged

disruption following COVID. The emphasis on ‘the people’ rather than ‘the university’ invites reflection on how belonging is cultivated – or neglected – within disciplinary cultures and everyday interactions. Kahu’s (2013) conceptual framework for student engagement furthermore provides a useful means of interpreting belonging. Distinctions are made between structural influences (such as curriculum and assessment), psycho-social factors (including motivation and identity) and the broader socio-cultural context. Kahu’s model, taking in behavioural, cognitive and affective dimensions of engagement, helps clarify how belonging intersects with engagement, suggesting that students who feel recognised and supported are more likely to participate meaningfully in academic life. However, her framework also invites scrutiny of how institutional norms may exclude or marginalise certain groups. Owing to this heterogeneity of student demographics/psychographics, a plurality of interventions and approaches will be necessary to build belonging in practice.

COVID prompted a wave of research into online learning and its effects on student connection, the implications of which we continue to experience. Hollister *et al.* (2022) found that, though some students appreciated the flexibility of remote learning, many struggled with isolation and disengagement; their study emphasises the importance of social presence and interaction in fostering belonging, even in digital environments. Similarly, Lee-Whiting and Bergeron (2022) report that students returning to campus expressed a strong desire for the ‘university experience’ they missed, suggesting that physical spaces and informal encounters play a vital role in shaping identity and community. Our experience as professionals, however, contends that students are still reluctant to engage in person as they once did. In a paper published post-2020, but, on the basis of survey data from 2018 and 2019, van der Velden *et al.* (2023) also examine medical students’ experience of belonging at university by means of a survey of peer mentors helping to integrate entrants to the first year; they report the positive contribution to transition to university in the case of those mentored and the edifying experience of the peer mentors themselves.

Most recently, Gilani and Thomas (2025) offer a comprehensive critical literature review of the factors shaping student belonging, identifying institutional structures, peer relationships and pedagogical practices as central influences. Their work highlights the complexity of belonging as both an individual experience and a systemic outcome, shaped by power, inclusion and recognition. Importantly, they argue that belonging cannot be reduced to feelings of comfort or familiarity – it must be understood in relation to equity and access.

Although specific in context and relatively limited in number, these studies offer key insights into the nature of student belonging and its intersection with engagement, identity and institutional design. Our case study builds on this literature by examining 1) how students from three faculties articulate their sense of belonging and 2) how disciplinary norms and pedagogical practices shape their experiences. By giving prominence to student voice, we aim to contribute to a more nuanced understanding of belonging that accounts for context, complexity and change. Ultimately, we aim to understand what will make the most effective use of our institutional resources to provide the best environment for effective teaching and learning.

Method

This pilot study adopted a mixed-methods approach to investigate student engagement among three distinct year 1 cohorts at a Scottish University: 1) business undergraduates; 2) foundation year students; 3) apprentices. By combining quantitative and qualitative techniques, the study aimed to capture a multi-dimensional perspective of student engagement.

Research design

The study followed an exploratory sequential design (Dawadi *et al.*, 2021), beginning with an online survey administered using Jisc Online surveys, to generate an overview of engagement patterns across student groups using descriptive statistics. This was followed by qualitative semi-structured interviews, to deepen understanding of the survey findings as noted by Exeter *et al.* (2010). Combining data sources in this way strengthened the overall depth and richness of the findings, which were analysed thematically and used to make recommendations for practice (Braun and Clarke, 2006). The authors obtained research funding from their institution's Learning and Teaching academy which allowed for the appointment of a doctoral candidate as research assistant and interviewer. By using an interviewer who was unfamiliar to the participants and more closely aligned with their experiences, we anticipated eliciting deeper insights.

Participants and sampling

Participants were recruited from the three cohorts by means of email invitations and classroom/virtual classroom announcements. Participation was voluntary, with informed consent obtained from all participants. Survey items, developed from both discussion of Kahu's (2013) model and our own experiences, were organised into the following categories:

- demographic information
- employment and commitments
- engagement and belonging
- academic motivation and prioritisation
- participation in further research

These categories were further mapped to Kahu's (2013) three dimensions of engagement: behavioural, cognitive and affective, while also accounting for the background and contextual variables that shape student experience.

Data collection instruments

Our online survey was informed by existing scholarly literature as well as by informal consultations with staff. Participation in the survey was as follows, in table 1:

Table 1. Participation in the online survey

Type of Student Cohort	Number of Participants
Business undergraduates	6
Foundation year students	10
Graduate apprentices	8

In addition to the survey, interviews were conducted with students from each cohort to explore collective perceptions of what supports or hinders their engagement. Interview questions were developed from engagement themes that emerged from the survey responses: teaching style and activities; community and how that developed; the effects of commitments outside university. Three in-depth interviews provided more nuanced insights into personal experiences, identity formation and factors influencing belonging at the university.

Analysis

Almost two-thirds of the students who completed the initial survey were from Scotland, with the remaining students from other parts of the United Kingdom (UK) or were international. Almost all the students worked and, for half of them, this was both during semester and in the holidays. A third of the students worked only during the holidays, as shown in figure 1. While 41.67% of respondents felt part of the university community, 33.33% were neutral and 25% did not feel they belonged. This pattern was also evident in responses about their social networks with other students: 45% felt part of a strong social network, but a third did not feel this connection (figure 2). 41.67% of students said they were genuinely interested in the subject and eager to explore it beyond the course; 29.17% described the courses as mostly interesting and engaging; 20.83% found them challenging yet engaging; 8.33% felt the material covered the essentials but was not particularly exciting (figure 3).

Over half of the participants (62.5%) were interested in extending their learning outside the classroom in some way, while 33.33% preferred to learn through in-class activities and 4.17% preferred to minimise in-class activities and focus on other learning methods (figure 4). Two students felt rather disengaged from their courses.

When asked what would help them feel part of a strong community, respondents expressed a wish for less lecture-based teaching and more interactive learning and teaching. They also wanted the university to be more understanding about their work commitments and other responsibilities. They pointed to the benefits of clubs and societies for building a sense of belonging and connection to the wider university community. These influences on engagement echo the structural and psychosocial influences in Kahu's (2013) conceptual framework of engagement.

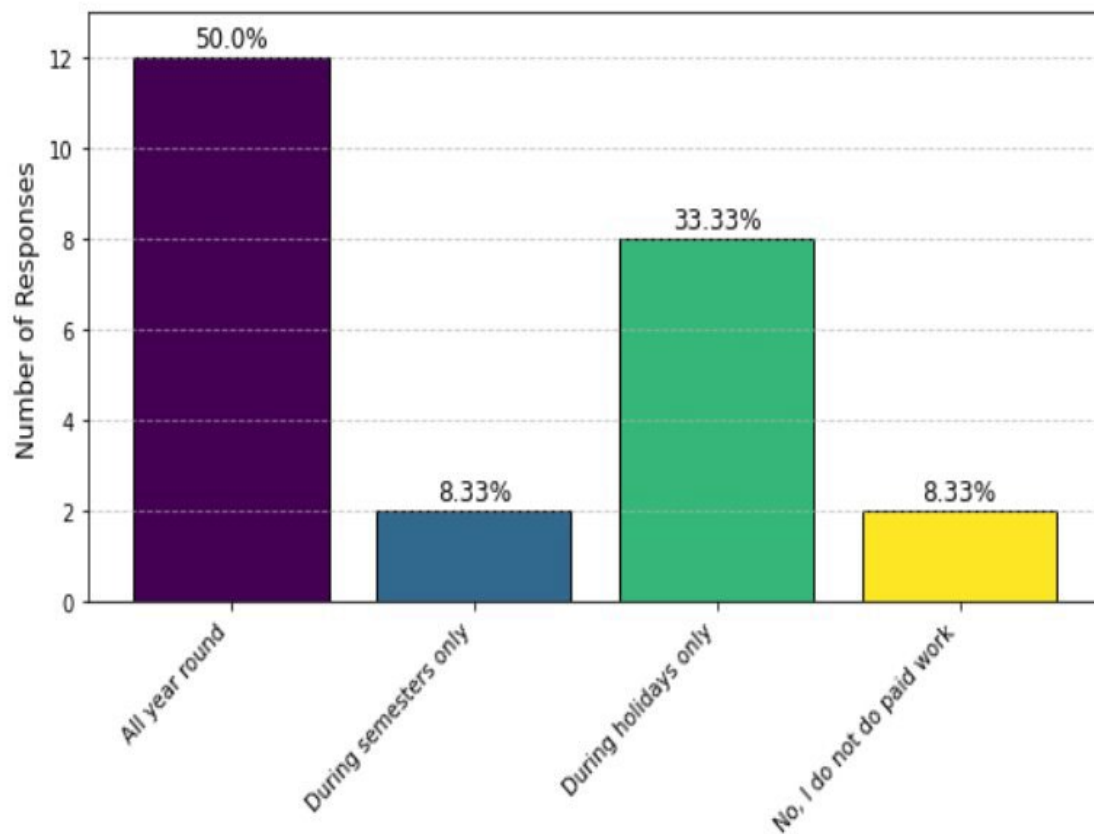


Figure 1. Student engagement in paid work

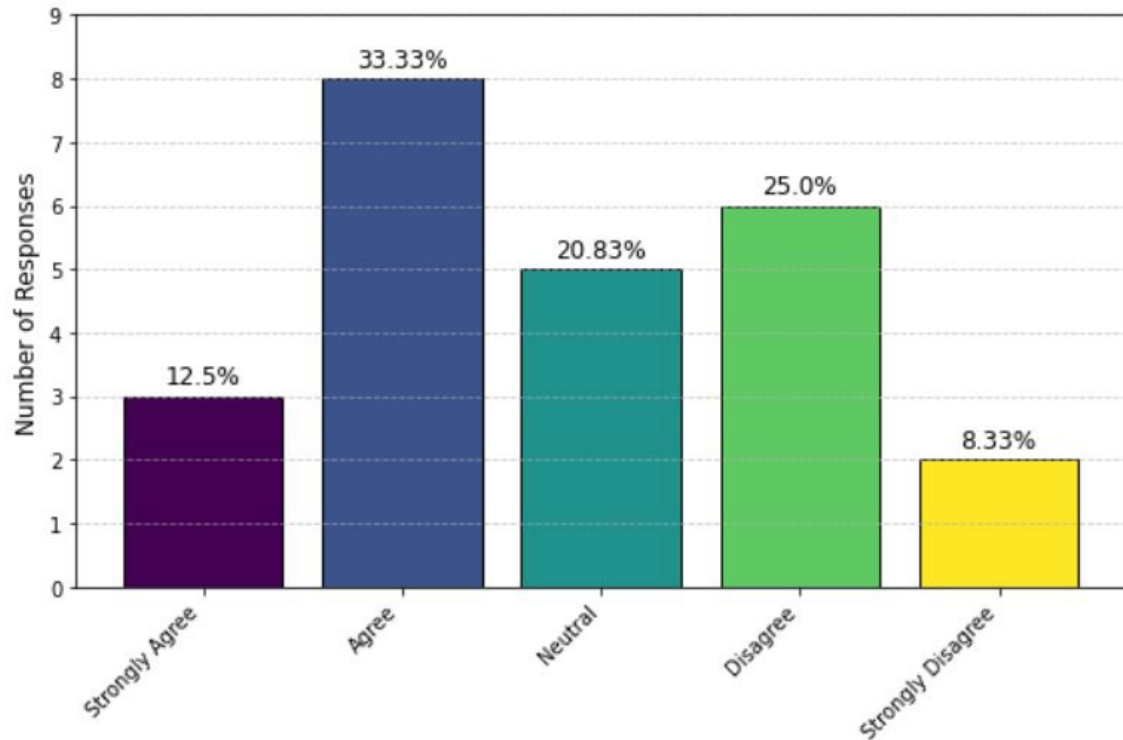


Figure 2. Students' response for having a strong social network with HWU students

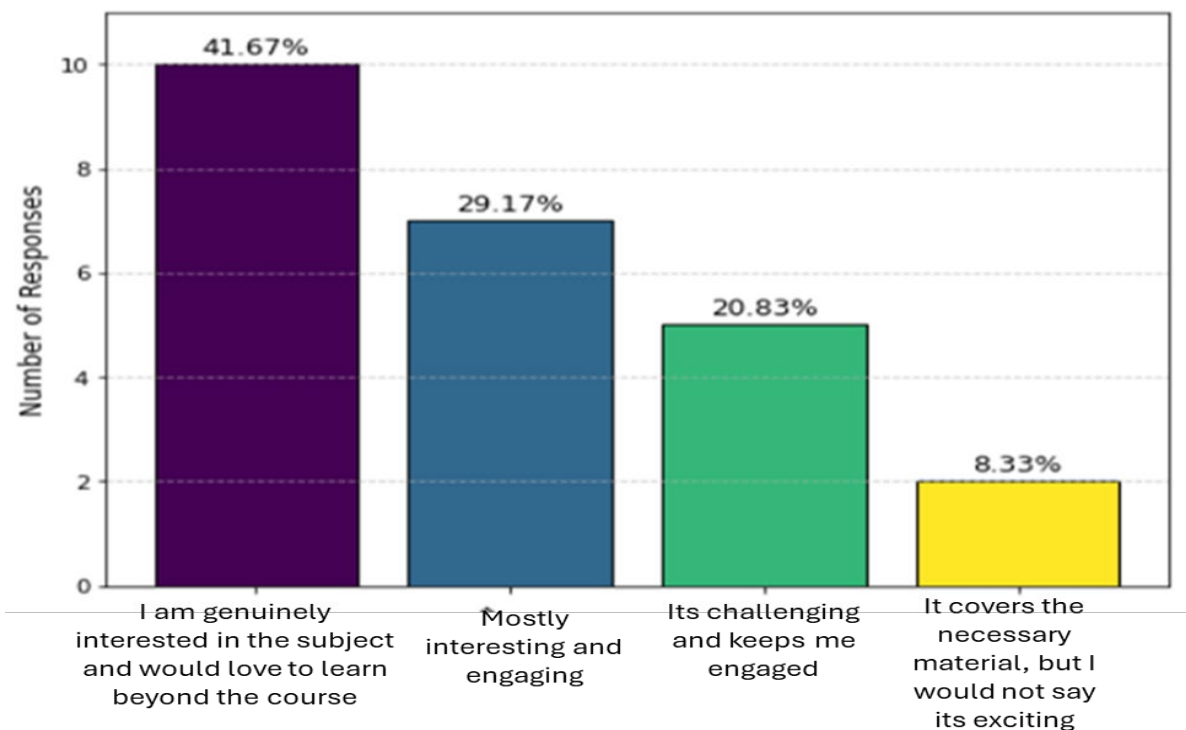


Figure 3. Students' interest in their course

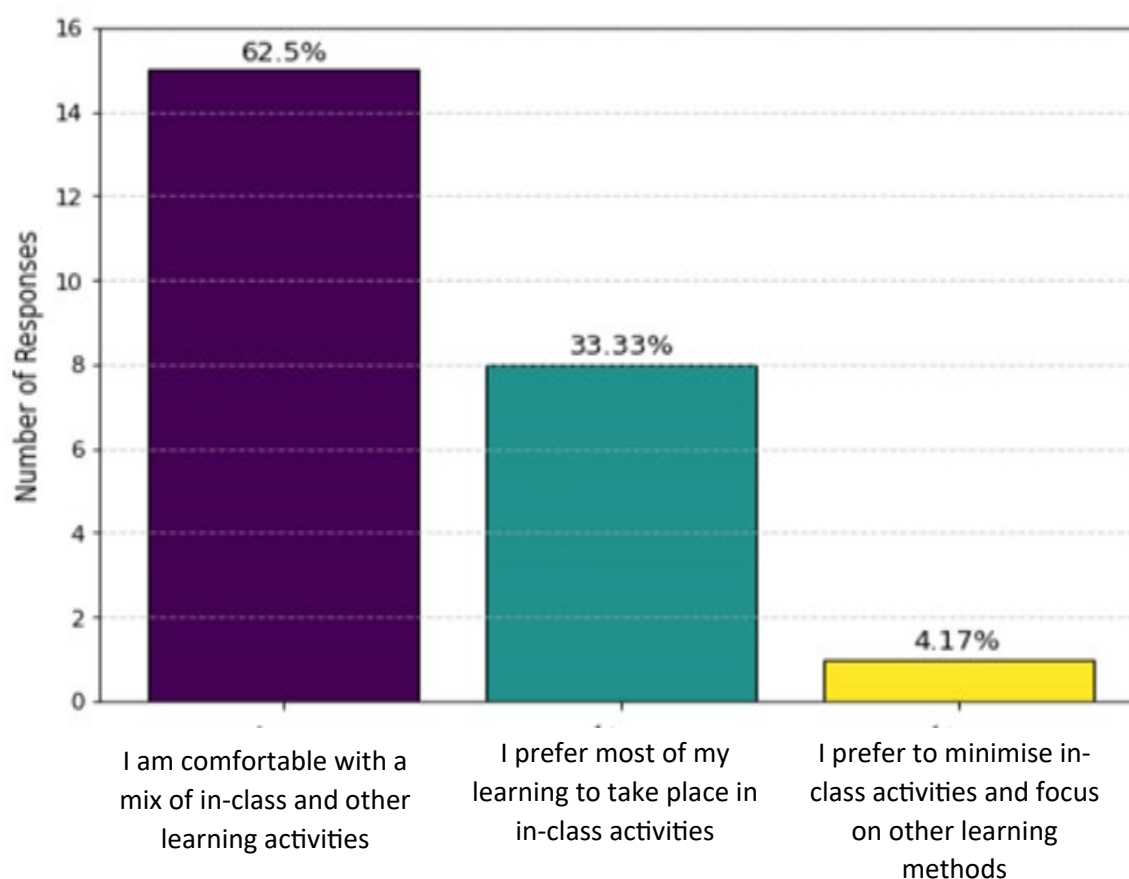


Figure 4. Students' preference for type of learning

In-depth interviews explored the themes of academic engagement and social engagement with one student from each cohort: a business school undergraduate, a foundation year student and an apprentice, all at the end of their first year of an undergraduate. Interview questions explored academic and social engagement through the themes identified in the initial survey data; these same themes formed a framework for analysis. We present the findings below.

Learning and teaching

All three interviewees had experienced lecture-based input. While valuing the structured learning this enabled, they all expressed enthusiasm for more interactive and independent learning. The business undergraduate described teachers who made the lecture hall welcoming by being friendly and supportive. They had enjoyed using the 'Maths Gym', a self-access resource for students to consolidate their mathematical knowledge. The foundation student enjoyed lessons when the lecturer expanded on the slides with real-life examples and built conversations with the class into the lesson. The apprentice welcomed the discipline of regular attendance at lectures but appreciated the more innovative affordances of the online lecture, such as seeing other students' faces to gauge their reactions during the lecture and

discussing lecture content in break-out rooms. Both the apprentice and the business undergraduate appreciated lecturers' willingness to respond to feedback. The above are all instances of social engagement reinforcing academic engagement in learning and teaching.

The interviewees also described occasions when the opposite happened and poor communication hampered their academic engagement. The business undergraduate described lecturers reading from slides or 'cold calling' students during the lecture, pressing for answers to questions. Although the intention may have been increased engagement, the effect was increased tension. The apprentice described being 'talked at' by the lecturer and expressed frustration at fellow students who refused to switch on cameras at all. Unsatisfactory communication with fellow students was central to the business undergraduate's difficulties in group work. He felt conflicted because needing to ask for help from the lecturer could suggest unsuccessful group work, which might then harm final grades. These instances confirm the need for interaction that is appropriate and carefully managed so that it consolidates academic engagement.

Wider academic community

Connecting with the university community through sport and activities was particularly central to the experience of the business undergraduate and the foundation student. Both students lived on campus and built their friendship networks from others living in halls of residence. Both had used sports clubs to connect. The foundation student commented:

'I think the more people you know and the more things you sort of turning up to and actively doing, the more motivated you are and better you feel as part of...as a part of something...'

This makes a clear connection between being engaged socially and feeling embedded in the university experience. For the apprentice, this way of engaging was less significant. He lived far from campus and felt personally unaffected by opportunities offered there. This may suggest the value of offering extra activities that do not require presence on campus.

Students' personal circumstances

This section considers students' perception of how their wider personal situation and possibly their long-term life goals affected their academic engagement and social engagement. For academic engagement, this may be how personal goals could be integrated into the learning experience. For social engagement, this might mean how personal circumstances, including family responsibilities, may be accommodated and integrated into the learning experience.

The business undergraduate could see scope for building his career interests into master's-level study but could not see connections at present. The foundation student did not comment on future goals. Not surprisingly, it was the apprentice who could already see tangible enhancements from the degree study to his work life and was well aware of the value of degree study for his *curriculum vitae*. He related the symbiotic relationship between work and study to his long-term goal of improving 'work-life efficiency'. Although online study would seem to provide added flexibility for students with family responsibilities, the apprentice simply stated:

'Family comes first.' The foundation student did not discuss his personal circumstances, aside from the difficulties of finding a flat to rent. Following an intense first year living on campus, the business student expressed a readiness to move back to his nearby family home and reconnect with old friends from outside the university context. These experiences suggest an evolving relationship between student life and life outside the university and thus a need for flexibility.

Discussion

Findings in this initial study indicate that academic engagement depends on a transition from primarily lecture-based delivery to something more interactive, discussion-driven and comprising active learning. For this to happen, staff and students should place more value on social engagement and inclusive communication, feedback and student-centred group work practices. It is important for students to feel they belong to a wider university community and feel part of a peer network. This can be strengthened by promoting clubs, societies and cross-campus activities as accessible ways for all students, including remote learners and apprentices. It is important to recognise the individual circumstances of learners, which include: institutional understanding of, and flexibility to accommodate, students' work and personal responsibilities; offering recorded lectures; providing accessible online resources. It also means personalised support, ensuring – via regular check-ins or personal tutoring systems – early identification of and outreach to students who feel disengaged. The power of peer networking and employability and enhancement activities outside the classroom are recommended for creating an environment in which students with difference profiles may feel a greater sense of belonging.

A limitation of the study is a small sample size, with only three students interviewed, representing the three programmes. The data were collected towards the end of the first year; though this provided an opportunity to reflect on the whole year, it meant that we did not include the engagement experience of students who had not completed the first year. A future case study could both explore experience across the first year, collecting interview data at intervals, and include more participants to understand more variety of experience. We could also explore the design of group work and how this influences student engagement.

Building on the findings of this study, the recommendations below are designed to address key challenges relating to academic engagement, social belonging and flexibility in learning. They provide a practical framework for academic teams and support services to enhance the student experience, promote a sense of community and ensure that teaching and support strategies are responsive to the diverse needs and circumstances of the student body.

Table 2. Checklist for Enhancing Student Engagement, Belonging, and Flexibility in University Programmes

Themes for Consideration	Action Point	Notes for Review
Learning and teaching	Are modules incorporating interactive elements (e.g., discussions, group work, real-world examples)? How are students supported to manage the challenges of group tasks?	
Hybrid learning	Are alternative/online options provided for working or remote students?	
Student work/life balance	Do staff communicate flexibility for and understanding about work or family commitments?	
Social integration	Are clubs, activities or online groups promoted and accessible to all cohorts?	
Staff practice	Have staff received guidance/training on inclusive teaching and group facilitation?	
Early intervention	Is there a system to flag and follow up with students who appear disengaged or isolated?	

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Appendix – Survey

- 1. Which program are you currently enrolled in?**
 - a. Global College Foundation Year
 - b. First-Year GA Student
 - c. First-Year Undergraduate Student at EBS
- 2. What is your current age range?**
 - 18–24
 - 25–34
 - 35–44
 - 45–54
 - 55–64
 - 65 or over
- 3. What is your gender identity?**
 - a. Male
 - b. Female
 - c. Prefer not to say
- 4. What is your fee status?**
 - a. Scotland
 - b. Rest of UK
 - c. International
- 5. What is your highest previous qualification?**
 - a. School Qualifications (e.g., Highers, A-Level, International Baccalaureate, or equivalent)
 - b. Further Education College Qualifications (e.g., HND, HNC, BTEC)
- 6. What is your current living situation?**
 - a. In university accommodation
 - b. With parents/family/friends
- 7. Do you currently do paid work?**
 - a. No, I do not do paid work
 - b. All year round
 - c. During holidays only
 - d. During semesters only
- 8. How many hours of paid work do you typically do per week during holidays?**
 - a. I do not work during holidays / I don't work during holidays
 - b. Less than 10 hours
 - c. 10–20 hours
 - d. 21–30 hours
 - e. More than 30 hours
- 9. How many hours of paid work do you typically do per week during the semester?**
 - a. I do not work during semester / I don't work during semester
 - b. Less than 10 hours
 - c. 10–20 hours
 - d. More than 30 hours
- 10. I feel part of the Heriot-Watt community.**
 - Strongly Disagree
 - Disagree

- Neutral
- Agree
- Strongly Agree

11. University is my main priority in life at the moment.

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

12. I am happy overall with my current engagement/experience at University.

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

13. I have a strong social network with other Heriot-Watt students.

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

14. How would you describe your social network? (Select all that apply)

- a. Close friends
- b. Family
- c. Colleagues
- d. Acquaintances
- e. Online community members
- f. Other

15. How would you describe your current course?

- a. It covers the necessary material, but I wouldn't say it's exciting.
- b. I'm genuinely interested in the subject and would love to learn more beyond the course.
- c. Mostly interesting and engaging

16. Rate the following activity by priority: University work.

- a. Top
- b. High
- c. Medium
- d. Low

17. Rate the following activity by priority: Paid work.

- a. Top
- b. High
- c. Medium
- d. Low

18. Rate the following activity by priority: Caring/childcare responsibilities.

- a. Top
- b. High
- c. Medium

d. Low

19. Rate the following activity by priority: Focusing on my well-being.

- a. Top
- b. High
- c. Medium
- d. Low

20. Rate the following activity by priority: Volunteer activities (unpaid work/internships).

- a. Top
- b. High
- c. Medium
- d. Low

21. Indicate preference for: In-class activity.

- a. I prefer most of my learning to take place in in-class activities.
- b. I prefer to minimise in-class activities and focus on other learning methods.
- c. I am comfortable with a mix of in-class and other learning activities.

22. Indicate preference for: On-Campus Activities (Excluding Classes).

- a. I rarely or never participate in on-campus activities (clubs, events).
- b. I occasionally attend on-campus activities (clubs, events) when time permits.
- c. I actively participate in on-campus activities (clubs, events) several times a week.

23. Indicate preference for: Virtual Engagement (Canvas, Teams, etc.).

- a. I prefer to minimise virtual engagement and focus on in-person interactions.
- b. I am comfortable with a mix of virtual and in-person interaction for course-related activities.
- c. I prefer most of my interaction with course materials and instructors to be through virtual platforms.

Open questions and follow-up

24. Please tell us, in your own words, how you currently feel about belonging to the university community.

25. What do you think would make you get more out of university life and feel part of a strong community?

26. Are you willing to participate in a focus group of up to five other students via video conference (Teams/Zoom) of up to an hour in length?

- a. Yes
- b. No

27. Alternatively, would you prefer and be willing to participate in a one-to-one interview of up to an hour in length?

- a. Yes
- b. No