Student transitions to university in Wales during COVID-19

Research

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Audience   The document is aimed at those interested in reading about educational research exploring the experiences and perspectives of first year undergraduates on their transition to university. Readers are likely to be those writing education policy; school, college and university leadership and staff involved in programme development; and education researchers.

Overview   This report presents the results of a mixed methods study that explored how prepared first year undergraduate Education students were for the transition to university during the COVID-19 pandemic in Wales.

Authors: Kieran Hodgkin, Nick Young, Emma Rawlings Smith, Sonny Singh

Action required   The report sets out recommendations which have the potential to better support students during induction and the first few months of their degree programme, and encourage engagement.

Mae'r ddogfen yma hefyd ar gael yn Gymraeg.
This document is also available in Welsh.

Contents

Executive summary

This report presents the results of a mixed methods study that aimed to explore how prepared first-year undergraduate Education students were for the transition to university during the COVID-19 pandemic in Wales. The report enabled the research team to better understand the transition experiences of first-year undergraduates enrolled on education programmes in Welsh universities and the challenges they faced engaging with learning so that recommendations could be made to inform policy and practice.

This report:
- Outlines the research design and data collection tools
- Presents the findings from the questionnaire and focus groups
- Discusses their implications
- Makes recommendations and draws conclusions

Overall, 90 respondents completed a questionnaire with scale items (Krause and Coates, 2008) and open-ended questions. This was followed by focus group interviews with 18 students to gain a rich understanding of participants' experiences of education before and during their transition to university.

Results suggest:
i) Students arrive at university with a range of academic, social and digital competencies, having experienced a diverse range of post-16 educational provision.
ii) Educational institutions changed their approaches to teaching and learning during the Covid-19 pandemic; social distancing measures and remote learning reduced the number of social interactions with their peers and friends.
iii) Since March 2020, students have had fewer opportunities to present, perform and work in various groups and spaces.
iv) The transition to university is a much longer phase than is currently theorised and students identified a need for an extended induction phase.

The report concludes with further recommendations for schools, colleges, universities and Welsh Government and implications for future research. For example, we recommend that schools and colleges re-engage with university outreach to raise awareness and knowledge of Higher Education with post-16 students. We also suggest that in-person academic and social engagements and digital support are key elements of induction and should be freely available at any point when students want this need to be met. Further, we advise that institutional planning incorporates additional opportunities for academic and social interactions, and engagement in and beyond the campus to include in-person seminars and events, as well as visits, fieldtrips and residentials for all university programmes going forward.

1   Introduction

This report presents the results of a Welsh Government funded study exploring the experiences and perspectives of first-year Education undergraduates about their transition to university in Wales. Based on data collected from an online survey and focus groups that ran between December 2021 and February 2022, it concentrates on the academic, social and digital dimensions of student engagement as developed by Krause and Coates (2008) after completing a large-scale study of first-year students in Australia (Krause et al., 2005). The report begins by introducing literature focused on student transitions (O'Shea, 2016; Gibney et al., 2011) and engagement at university (Baik et al., 2015; Briggs et al., 2012; Kahu, 2013), before it explores literature on academic, social and digital preparedness and engagement. There has been much attention on the education and experiences of first-year undergraduates worldwide since the beginning of the pandemic, much of which reports on the disruption and impact of COVID-19 on the nature of teaching and learning and preparedness of students transitioning to university, albeit it with significantly different experiences to previous year groups.

The transition to university is always challenging and has been exacerbated by COVID-19 (Baik et al., 2019; McKay et al., 2021). By 25 March 2020, COVID-19 had spread rapidly around the world and in light of rising concerns about the pandemic and a desire to reduce community transmission, 150 countries temporarily closed educational institutions such as schools and universities disrupting the education of four fifths of the world's entire student population (UNESCO, 2020). The pandemic thus impacted every aspect of school, college, and university life, with significant disruptions to the places and spaces of education and students' lived experience of learning. The temporary closure of schools and university campuses in the United Kingdom was followed by a rapid move to 'emergency remote teaching' and the site of learning shifted to 'the home', which for many students was impossible and unworkable (Cullian et al., 2021).

When schools physically opened again, education did not return fully to pre-pandemic conditions. Pupils were grouped in 'bubbles' and a positive COVID-19 case would cause the closure of bubbles, forcing students to stay home and engage in online learning. UNESCO (2021) noted that schools worldwide were physically closed for an average of 26 weeks equivalent to almost two- thirds of a typical school year (p.1). Furthermore, social distancing measures have impacted on pedagogical freedoms, learning outcomes and academic achievement (Kuhfeld et al., 2020). When university campuses opened again, the business of education did not return to normal and hybrid learning with elements of remote teaching are likely to remain due to their time, cost, and logistical efficiency irrespective of students' engagement, motivation, and wellbeing (García-Martínez et al., 2021; Marler et al., 2021).

Extensive support was offered by the Welsh Government to schools, colleges and universities during this period. Initially £10 million was issued to Welsh HEIs (Higher

Education Institutions) to support university students through the pandemic in early 2020. An additional £50 million was made available which was intended to support activities such as increased mental health services and student financial hardship funds. The funds were issued to help universities bolster their student support services, including food services for students who were required to self-isolate. The Welsh Government also recognised the need to address the digital divide exacerbated by the pandemic and in turn issued funding for students to access digital resources such as laptops. The Welsh Government also secured a national connectivity deal with major mobile operators which enabled all local authorities and maintained schools to repurpose existing devices for use in a learner's home to support online learning. Local authorities, working in conjunction with their schools and colleges, identified the number of 'MiFi' devices and software licences needed to support their digitally excluded learners. Once numbers were confirmed, the Welsh Government purchased the appropriate number of 'MiFi' devices and software licences. Based on the demand identified by schools and local authorities, 10,848 'MiFi' devices and 9,717 software licences funded by the Welsh Government were deployed across Wales up to the end of July 2021. These figures do not include any local arrangements made by individual local authorities or schools to loan other equipment to learners. Despite this financial support provided by Welsh Government to schools, colleges and universities a series of challenges and barriers associated with the transitionary process to higher education remained during this period.

Transitions are more than a sense of movement or transfer (Packer and Jones, 2021) from one institutional setting to another (Lombardi, 1992). The word 'transition' is used rather than 'transfer' as this suggested a change of educational location whilst 'transition' suggests that there is a development, a change of status, or adoption of a new culture as well as a change of location (Chedzoy and Burden, 2005). Research indicates that for transitions to be successful, there must be more than a shift in place, limited to a specific time and part of a natural academic process (Packer and Jones, 2021; Davies et al., 2015). Transitions include 'learning about identity and self, what a person can become and where that person is located socially and spatially' (Packer and Jones, 2021, p. 3) and as Field (2010) implies, transitions are in fact a fundamental feature of 'becoming'.

The transition from secondary or tertiary education to university is widely recognised as a significant vault to more independence and personal, social, and academic freedom for most students (Kyndt et al., 2017). The transition period is crucial, as it sets the foundation for successful study and future achievement (Krause and Coates, 2008). However, for those entering Higher Education this can entail significant emotional and social adjustment (Young et al., 2020). Transition is a complex and demanding experience which encompasses personal management of financial, social, and academic responsibilities (Belfield et al., 2017). The demands and complexity of the transition to Higher Education is challenging enough without having to cope with some of the factors imposed by a global pandemic.

Student engagement is considered a complex and multifaceted concept which broadly referred to the students' approach towards their learning (Krause and Coates, 2008). The development of engagement is seen as an important aspect as the students' involvement on academic and campus-based tasks is positively linked with an effective positive experience and a sense of belonging to the academic community (Kuh, 2009). Krause and Coates, (2008) highlighted the influence of the institutions' efforts to provide conditions that afforded learning opportunities. Further to this, Kuh (2009) argued that engagement was a shared responsibility between the students and institutions' practices in pursuit of optimising the student experience and enhancing the learning outcomes (Trowler, 2010; Krause and Coates, 2008).

The literature indicates that increased levels of engagement can have a positive impact on student learning achievements and outcomes (Kuh, 2009; Krause and Coates, 2008). For example, the first-year experience in Higher Education is particularly crucial to students' outcomes, such as retention, achievement, and completion. Within this context, Krause and Coates (2008) identified seven dimensions of engagement: Transition, Academic, Peer, Student-Staff, Intellectual, Online, and Beyond-Class. The purpose of this research is two-fold. It is an exploration of first-year university students' engagement in Welsh universities, drawing on the engagement scale measurement developed by Krause and Coates (2008) to answer the following three research questions:

> RQ1. How academically prepared and engaged were first-year Education students during the COVID-19 pandemic?
>
> RQ2. How socially prepared and engaged were first-year Education students during the COVID-19 pandemic?
>
> RQ3. How digitally prepared and engaged were first-year Education students during the COVID-19 pandemic?

It then asks first-year students to consider how educators and educational institutions can better support students' transition to university with the following and final research question:

> RQ4. What opportunities and interventions could be implemented in university to mitigate the negative effects of the COVID-19 pandemic on teaching and learning?

2   Literature Review

This section of the report provides an overview of the literature which focuses on student transitions to university, much of which is based on empirical studies carried out in Australia, the USA and the United Kingdom. The scope of this report does not permit a comprehensive review of the literature on student transitions; rather, it outlines some of the key threads (Figure 1) running through the literature on the five dimensions of student engagement. It starts with an outline of the literature review ahead of an in-depth exploration of research on students' engagement with their university studies and learning community, their digital preparedness and their online experiences.

2.1   A summary of the literature on student transitions to university

There is an increasing body of literature exploring student transitions. It recognises that student engagement requires the development of academic competencies on arrival at university. However, the impact of COVID-19 on pedagogical practices, and the time and spaces given to learning was a key concern in the literature. Consequently, if students are not fully supported during induction, it could impact on their academic identity formation and progression.

The COVID-19 pandemic affected the students' ability to interact with others. Students starting university expect to make friends and there is a direct link between the quality of friendships made during their first of study and their social adjustment to university. It is not surprising therefore, that 'connection with others', 'peer support' and 'isolation/loneliness' were significant concerns within the relevant literature.

Digital engagement during the transition to university encompasses the value of digital access and digital literacy as well as the elevated role of online learning during this period. Essentially without access to digital resources, Wi-Fi or knowing how to navigate learning in a digital domain could present challenges and barriers as well as opportunities during the transition process.
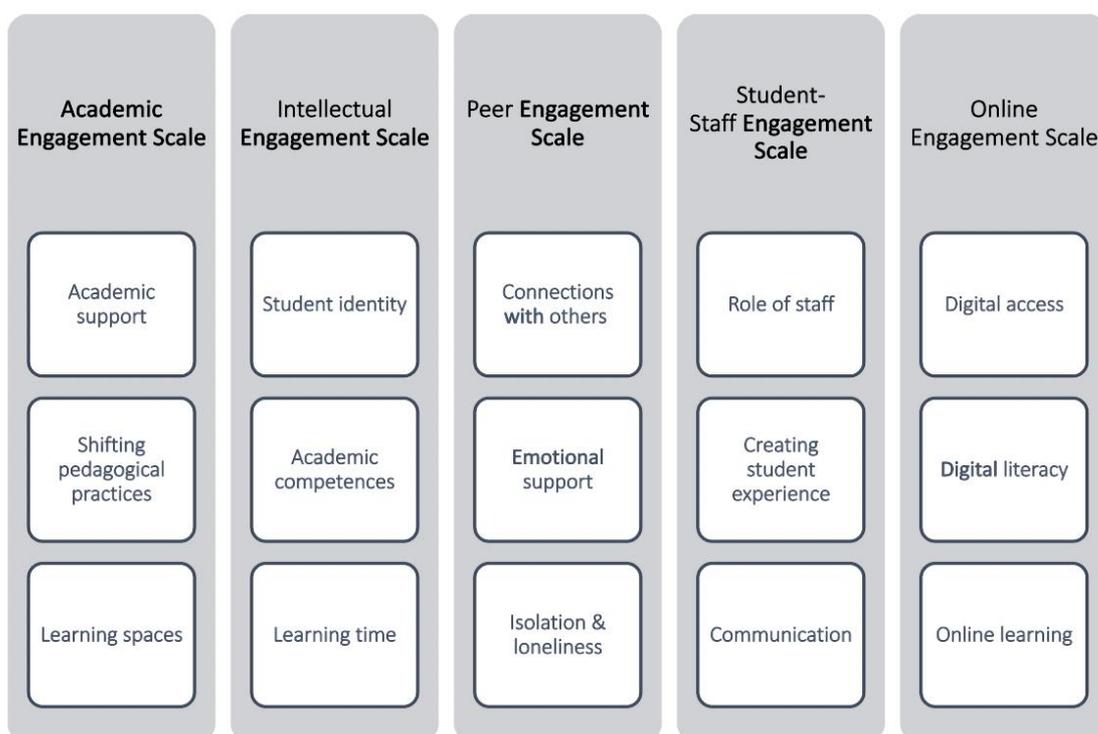
Figure 1 Key threads within the relevant literature

2.2 Academic engagement during the transition to university

Understanding the complexity of student transitions to university is an important, yet under-theorised area of research (Gale and Parker, 2014; Briggs et al., 2012). Tinto's (1987) seminal work contended that successful first-year students were those who arrived with, or quickly developed, the necessary academic skills to perform. Academic success requires more than skills and can also be attributed to students' self-direction, motivation, and management of time and study habits (Scanlon et al., 2007). Krause and Coates (2008, p.500) suggested that the Academic Engagement Scale 'attributes agency to the student rather than the institution'. Yet, the scaffold or practice architectures needed to support self-management, agency and ultimately success, must be developed by educational institutions with the aim of helping new students adjust to, and develop knowledge of their new learning context (Mahon et al., 2017; Scanlon et al., 2007; Yorke, 2000).

2.2.1 Academic support for transition

When supported by university services, staff and programmes, students can develop their academic self-efficacy or the belief that they can succeed; this builds both confidence and resilience and can be motivating (Bandura, 1977; Bean and Eaton, 2001). It is recognised in the literature that universities with pre-university outreach programmes, institution-wide academic skills programmes, a friendly culture, and an emphasis on early-programme formative assessment (Tinto, 1987) are well positioned to encourage cognitive and metacognitive learning, student engagement and positive outcomes for all (Yorke and Thomas, 2003; Westlake, 2008). Yet, COVID-19 disrupted the everyday business of education and key university transition activities were

cancelled, postponed, or moved online, meaning that first-year students faced more challenges and were less 'transition aware' (Ferreira, 2018, p.373) than in pre-pandemic times. This disproportionally impacted some students, more than others according to their prior educational and life experiences (Blundell et al., 2020; Gill, 2021; McKay et al., 2021).

2.2.2 Shifting pedagogical practices

Students take a significant leap when they transition to university, both in terms of developing greater academic autonomy and adjusting to adulthood in a new formal educational space (Briggs et al., 2012; Hill and Jones, 2010; Young et al., 2020). Tate and Swords (2013), in research with first-year Geography students, suggested that the narrow range of reading, spoon-fed learning and limited independence of thought at A level needs to be addressed to reduce the skills gap and support transition. Further, they recognised that innovative pedagogical approaches used by teachers with non-examination year groups, can, if used with examination groups, support the acquisition of key academic skills needed for university and future employment.

During the pandemic, it was acknowledged that online education and social distancing measures further reduced teaching and learning interactions across the breadth of the education sector (McKay et al., 2021). The shift to online learning early in the pandemic was accompanied by a pedagogical shift in the responsibility for learning from teacher to students (Mishra et al., 2020). Some students were self-motivated and able to identify learning goals, select appropriate learning content and organise and effectively use their time to study, whereas others were less motivated and unable to make this change (Kemp et al., 2019). In a study exploring online assessment, Gonzalez et al. (2020) found that student performance improved, but this was possibly due to students prioritising assessment over learning new subject matter. In schools, the physical constraints of teaching from 'behind the line' and not circulating the room disrupted 'normal' pedagogical practices and reinforced the notion of teacher as expert as they increasingly controlled the delivery of knowledge. This experience meant the students transitioning directly from pre-university institutions felt even more disorientated when navigating learning at university (Gill, 2021).

2.2.3 Learning spaces

COVID-19 affected where students learned. Consequently, learning spaces have been a key theme in student transitions literature published, especially over the last two years (Andrews et al., 2020; McKay et al., 2021). To understand why learning spaces are important, it is first worth a brief deviation to consider how students learn. Illeris (2007) theorised that learning has three dimensions: subject content (knowledge, understanding and skills), incentive (motivation, emotion, and volition), and social interaction (action, communication, and cooperation). Drawing on the work of Wenger (1998), Illeris (2007, p.113) highlights that learning is always situated, taking place in certain contexts and is 'tied to community and practice' where it creates meaning and identity for the learners. The role of social interaction and collaboration is central to Lave and Wenger's (1990) conceptualisation of learning.

In the case of a university, the campus is still the traditional site of learning, although, with digital technology, more learning occurs in online learning spaces. Learners being physically together enables behavioural, emotional, and cognitive interaction, this activity via dialogue and interaction supports the sharing of knowledge, understanding and academic norms within the student body (Trowler, 2010). Research suggests that students feel that they learn better in-person in formal learning spaces such as the university campus rather than online (Bojovic et al., 2020) and Galy et al. (2011) concluded that e-learning does not have the same impact as face-to-face teaching and learning. In a study with 604 undergraduates, Gherheș et al. (2021) found that more than half of the students surveyed wanted a return to traditional teaching format after the COVID-19 pandemic. Key reasons for this, identified by Jandrić et al. (2021), were linked to unsatisfactory experiences during lockdown including tension due to shared study spaces, blurred boundaries between academic life and personal life, and a reduction in interactions with peers and lectures.

2.3 Intellectual engagement during the transition to university

Krause and Coates (2008, p.500) recognise that 'Intellectual engagement, in short, facilitates the development of cognitive and affective foundations for academic success'. The Intellectual Engagement Scale is tied up with the concepts of intellectual challenge, motivation, and success and these are intricately linked to academic competences, identity formation and the time students are willing to spend on their studies.

2.3.1 Academic competences

The transition to university is academically challenging (Baik et al., 2019; Charalambous, 2019). Research evidence demonstrates a strong link between first-year experience, student satisfaction, academic engagement, achievement, and retention (Gill, 2021; McKay et al., 2021; Meehan and Howells, 2019; Kahu and Nelson, 2018). Higher Education's widening participation agenda has diversified the nature and needs of new undergraduates, and it is well documented that not all students bring with them the academic capital (Bourdieu, 1998) or academic competences (the skills, attitudes, and behaviours) necessary to engage with their studies, feel connected to their peers and lecturers, or develop a sense of belonging in academia (Gale and Parker, 2014; Hill and Houghton, 2001; Money et al., 2020). As set out by DiPerna and Elliot (2000), academic competences can be classified as academic skills or academic enablers. Basic and complex academic skills such as reading, writing and critical thinking are needed to engage in the learning process. Academic enablers or dispositions are the attitudes and behaviours such as study habits, motivation, and intellectual engagement. Developing competences helps students to access, engage, and ultimately succeed in their own learning journey (Ramsden, 2003; Kraus and Coates, 2008).

2.3.2 Student identity

Drawing on studies predominantly from Australia, the USA and the UK, Gale and Parker (2014) identified three broad conceptions of transition as induction, development, and becoming. The authors then suggest that the first two primarily served the institution and system, and that "transition as becoming" has the most potential for new thinking about transitions in HE in socially inclusive ways' (p.735). The process of becoming or identity formation is complex, and the difficulties students encountered in forging their identity at university can be attributed to the discontinuity of their pre-university identity and a future focus on the world of work at university (Briggs et al., 2012; Daniels and Brooker, 2014). Scanlon et al. (2007, p.223) contend that the identity instability of first-year students can be attributed to the fact that they held 'naïve "knowledge about", rather than contextualised "knowledge of", the new learning context'. Balik et al. (2019), in a study reporting on a survey of 2,776 students, found that university educators and administrators played a key role in supporting students to develop knowledge of the university and its systems and identify as a student.

When students struggle to navigate their change in context, it is important that they can reach out to staff for pastoral support. In a longitudinal study of 530 students from five cohorts, Meehan and Howells (2018) found that what mattered most to students was building these relationships, their academic study and developing a sense of belonging. Briggs et al. (2012) highlight that successful student orientation and learner identity development are both precursors to success. Yet, the pandemic significantly impacted on university orientation, and students unfamiliar with academic culture have struggled. Serventy and Allen (2022), in research with learners in Australia, concluded that the pandemic caused students to experience stuttered progress, crashes and deviations to their academic journeys. In extreme cases, where the feeling of learning disconnection and invisibility or 'being lost in a crowd' was so overwhelming, the only option seemed to be to drop out (Scanlon et al., 2007, p.223).

2.3.3 Learning time

The amount of time students were directly engaged in teaching and learning experiences during the pandemic was lower than in pre-pandemic times, see section 2.5 on digital engagement. This 'lost learning' was unrecoverable and directly impacted on subject matter coverage and intellectual challenge. For many students, COVID-19 changed the very nature of the working week, especially for those with caring responsibilities and challenging home contexts for example those with limited access to study space and resources (Sanagavarapu and Abraham, 2021). Extending this line of thinking, Wang et al. (2020), in a study of home confinement, concluded that studying at home led learners to cut the amount of time they dedicated to their study as they experienced boredom, frustration and stress which impacted on their mental health and wellbeing. Sometimes this cut meant no study at all. Results from Aristovnik et al.'s (2020) substantial study of 30,383 students from 62 countries were remarkably similar. Their findings, in addition to boredom, anxiety and frustration, also revealed that students were concerned about the impact of the pandemic on their

future. Consequently, to ensure academic progress and the completion of qualifications, protected time for study, in informal or formal learning spaces, is vital for all students. Drawing on longitudinal data collected between 2018 and 2020, Elmer et al. (2020) reported on the mental health and wellbeing of students and concluded that it was best for all students if teaching to return to campus. This matters most for students who are unable to carve out dedicated study time at home, as conflicting demands in the domestic space can cause negative emotions, stress and anxiety.

2.4 Social engagement during the transition to university

COVID-19 and the accompanying shift to online teaching affected students' interactions with other people (McKay et al., 2021). Students starting university expected to make friends; it was reported that there was a connection between the quality of friendships for first-year students and their social adjustment to university (Buote et al., 2007). It was not surprising therefore, that with the onset of the COVID-19 pandemic, and the move to online learning, social wellbeing decreased (McKay et al., 2021). Connections with people, emotional/peer support, isolation/loneliness, the role of staff, communication and creating a student experience were identified as common threads within the relevant literature.

2.4.1 Connection with people
There is a wealth of literature which described how students struggled to establish a sense of 'connectedness' during the early days of university (Christie et al., 2008), and the impact this had on their time at university (Ahn and Davies 2020; Humphrey and Lowe 2017). This was further exacerbated given the fact that strong social networks are important in buffering stress and improving academic performance (Stadtfeld et al., 2019). The challenge of developing a sense of 'connectedness' was likely to have been heightened by the COVID-19 pandemic due to restrictions imposed on students and the move to online teaching (Lederer et al., 2020). Interestingly, McKay et al. (2021) found that the lack of face-to-face contact with other people during the COVID-19 pandemic impacted students in different ways. For some, the lack of connection with people both inside and outside their studies, seriously affected their wellbeing (McKay et al., 2021). On the other hand, the move to online learning, and the subsequent lack of connection with others was welcomed by other students as it allowed them to juggle their studies with other commitments (McKay et al., 2021). In addition, the literature also suggested that the lack of physical university space in a COVID-19 context could impact students' self-discipline and sense of belonging (Raaper and Brown, 2020).

2.4.2 Emotional and peer support
During the first few weeks at university, students face significant social, emotional, and academic challenges (Risquez and Sanchez-Garcia, 2012). Effective emotional and peer support during this time has been shown to impact social integration and academic performance (Baker and Siryk, 1999). Raisanen et al. (2021) stressed that peer and emotional support was crucial for students during their time at university. Advice from peers was particularly important as a coping mechanism for dealing with

the onset of stress (Raisanen et al., 2021). Moreover, peer support was crucial during the initial stages of university when students could struggle with self-regulation (Raisanen et al., 2021). Similarly, in their study exploring peer support at university, Kaur et al., (2021) concluded that a structured peer support system was essential during the first-year of university and became less prominent during the final years of university. Peer relationships and emotional support have been considered particularly important with the added complexity of the recent COVID-19 pandemic (McKay et al., 2021). Literature suggested that building relationships could be difficult without the complexity of COVID-19, and that many students struggled to transfer their relationships online, resulting in missed opportunity for support (McKay et al., 2021).

2.4.3 Isolation and loneliness

Isolation and loneliness have long been an area of concern for students during the transition to university. Seminal work has highlighted that during the process of transition to university, young people were faced with the stress of living away from their families and lacking their previous support system (Wiseman, 1997). In addition, students were expected to develop new friendship groups, attempt to maintain contact with old friendships groups and cope with feelings of loss and isolation (Shaver, Furman and Buhrmester, 1985). More recently, studies have emphasised that isolation and loneliness continued to provide a significant challenge for students. For example, Maunder et al. (2013) concluded that for students making the transition to university, the formation of new peer groups and social positioning was a key factor in developing their identity. Subsequently, many studies have underlined that a failure to form such important bonds could lead to feelings of isolation, loneliness, and university dropout (Kelly et al., 2007). As part of their study exploring student loneliness prior to the pandemic, Thomas et al., (2020) ascertained that universities should consider face-to-face interactions, supported by digital interactions, rather that prioritising one over the other. The introduction of the COVID-19 pandemic meant that face-to-face social interactions were reduced and as a result, the students struggled with feelings of isolation and loneliness (McKay et al., 2021).

2.5 Student-staff engagement during the transition to university

Krause and Coates (2008, p.501) argue that 'student-staff engagement relates to the critical role academic staff play in helping first-year students to engage with their study and the learning community as a whole.' One important aspect of this scale is the attitudes and behaviours staff displayed in relation to student progression.

2.5.1 Role of Staff

The role that academic staff play in supporting students during their time at university has been recognised throughout the relevant literature. Tinto's (1997) seminal work highlights that the more students engaged with academic staff, the more likely they were to remain at university. Authors regard the personal tutor system as an important support structure for students at university (Owen, 2002; Yale, 2019). However, there is some ambiguity within the literature as to what constitutes a personal tutor and the responsibilities of the role (Owen, 2002). As part of a study by Lea and Farbus (2002),

they discovered that 'the amount of time tutors spent with tutees varied enormously – from no time at all to up to 30 hours' (p. 20). More recently, the COVID-19 pandemic placed additional emphasis on the role of staff in supporting students. McKay et al. (2021) found that academic staff were an important part of a student's journey through university. The authors revealed that the COVID-19 pandemic reduced students' interactions with staff which significantly impacted upon their wellbeing (McKay et al., 2021). However, for those students who had developed effective teacher-student relationships, they were able to reach out for support (McKay et al., 2021).

2.5.2 Creating a student experience

The COVID-19 pandemic changed the way students experienced university. It altered traditional teaching practices and the environments that supported these practices (Eberle and Hobrecht, 2021). Students were required to adapt to an alternative approach to learning, a reduction in the opportunities to meet others and balance their studies with their personal life. Therefore, creating a 'traditional' student experience was a significant challenge through the COVID-19 pandemic. Eberle and Hobrecht (2021) found that for students, the combination of home learning and a lack of access to university facilities led to a negative experience during their first year at university. Similarly, McKay et al. (2021) recognised that when students were forced to isolate at home, it had a significant impact upon their experience of university and their wellbeing. Students valued face-to-face teaching and its positive impact on the development of an academic learning community (McKay et al., 2021).

2.5.3 Communication

Effective communication is a central pedagogical component within Higher Education. However, considering the changes enforced by the COVID-19 pandemic, effective communication and partnership with students was recognised as being more important now than ever (Judd et al., 2020). Changes introduced due to the pandemic created a significant challenge for educators attempting to effectively communicate with students (Zarzycka et al., 2021). A study by Judd et al. (2020, p.77) found that during the pandemic, 'staff and students struggled to communicate entirely online, with students citing long wait times for email responses, and barriers to social connection normally possible through body language and nuance'. However, a study by Zarzycka et al. (2021, p.15) argued that 'a broader use of social media can help to develop communication and collaboration in Higher Education'. They emphasised, along with other studies, the vital role social media now has as a teaching tool that could also enhance communication between students and teachers (Zarzycka et al., 2021).

2.6 Digital engagement during the transition to university

The COVID-19 pandemic forced education providers from around the world to shut down their institutions indefinitely and move their educational activities onto online platforms (Chakraborty et al., 2020). These institutions were forced to suddenly modify their teaching and learning strategies and adopt innovative technologies. In most cases, these organisations did not get enough time to reflect upon how the new

strategies and the associated technologies should be introduced and integrated into their existing setup (Chakraborty et al., 2020). Students in turn were expected to follow this transition to online learning. This decision was made with limited preparation time or regard for students' digital literacy or access to digital technology (Gamage and Perera, 2021). Three key areas have emerged within the realm of digital engagement from research which included digital access, digital literacy and engagement with online learning. These key areas are discussed in further detail below.

2.6.1 Digital access

The move to online teaching and learning, also referred to as emergency remote teaching took place against a set of conditions that risked exacerbating socio-economic inequalities between students (Robinson and Rusznyak, 2020). Students did not have equal access to, and expertise on, digital technologies during this period and although these inequalities existed earlier, the COVID-19 pandemic further exposed the digital divide (Gamage and Perera, 2021; Jæger & Blaabæk, 2020).

Accessibility to online education was a common theme in the literature during the pandemic, with Chakraborty et al. (2020) suggesting that steady access to digital technologies was a precondition for successful learning with online education. However, accessibility was not universal with problems being highlighted such as the limited access to learning resources, the high cost of hardware, mobile phone coverage, sufficient data and even a reliable electricity supply could not be assumed (Cullinane and Montacute 2020; Frenette et al., 2020; Lourenco and Tasimi 2020). Furthermore, many students reported unreliable connectivity and bandwidth limitations which have impacted the access to online learning (Nafukho 2007; Okiki 2011).

Accessibility to digital resources became a crucial factor for learning during the subsequent lockdowns. Due to the rapid transition from learning at school to learning exclusively at home, Andrew et al. (2020) found that there was likely to be much larger heterogeneity in the degree of preparedness and availability of adequate digital resources in homes with larger incomes. Better-off families were significantly more likely to provide their children with the home resources needed for learning, including computers/tablets as needed and a desk of their own (Andrew et al., 2020). Other problems associated with accessing digital resources arose as homes with a limited number of digital devices and more people needing to use them simultaneously (Toquero & Talidong, 2020).

2.6.2 Digital literacy

The degree to which a student feels prepared for university also involves their perceived digital literacy. Assumptions that the 'digital native' generation (Prenksy, 2001) entering Higher Education would adapt quickly to online pedagogy have been challenged during this period. Unequal access to digital expertise has been exposed by the shift to digital learning and teaching during the pandemic (König et al., 2020). Although studies have stated that students' engagement with online learning was strong (Chong and Soo, 2020) with students describing themselves as 'tech-savvy'

(Mladkova, 2017), their digital expertise and competencies in early university entrance were far more complex and varied contrasting with widely held expectations.

Surveys of school leavers report that they were behind the expected information and communication technology transformation process in educational systems (Fraillon et al., 2019). Studies have discovered that students were digitally confident with a range of competencies such as searching the web and downloading resources (Parkes et al., 2015), but students reported being unprepared for a range of e-learning competencies such as adapting to university-based learning environments (Chong and Soo, 2020). Chakraborty et al. (2020) has suggested that students with limited access to digital technologies were facing problems in adapting to this new model of digitally dominant learning. Feeling digitally unprepared for university contributed to students' feelings of fear and anxiety about their transition. Snelling and Fingal (2020) argue that this fear can be reduced by institutions providing digital support and guidance during students' transition to university.

2.6.3 Engagement with online learning

The role of online teaching became a principal factor in creating opportunities for curriculum transmission amongst periods of enforced physical distance. However, engagement, connection, and motivation by students with remote teaching varied during this time. The widespread adoption of online learning created both benefits and challenges to students entering Higher Education as outlined in the literature. Students acknowledged that online education helped them to continue their studies during the pandemic (Mishra et al., 2020). Also, for individuals who were unable to attend a traditional full-time face-to-face school due to personal or financial circumstances, the flexibility of asynchronous eLearning provided wider access (Murphy, 2020).

Technological use during this period has demonstrated opportunities to enhance and enrich pedagogy (Robinson and Rusznyak, 2020). However, online learning, especially non-contact online learning, lost many of these critical acts and responses of the teacher as mediator of knowledge and understanding: 'it throttles pedagogical practice' (Black, 2020). Biesta (2019, p.55) also expressed concern that online teaching could 'spell a return to more traditional ways of teaching'. Student voices may be lost with technology being used to simply present information to students in a didactive and unmotivating manner. Vargo et al. (2021) concluded that online teaching was not deemed as effective as face-to face teaching. Several other studies stated that online teaching could not replace the mediated and relational nature of teaching (Robinson and Rusznyak, 2020). Empirical studies have found that students felt that they learned better in physical classrooms than through online education (Bojovic et al., 2020).

Studies reported that students felt that online education was stressful and this impacted their health and social life (Chakraborty et al., 2021). Concerns over excessive screen time and anxiety associated with retaining an internet connection were related to engagement with online education. A lack of motivation and negative

emotions (Patricia, 2020) made it difficult for many students to focus on online education. Online education was also described as lacking intellectual stimulation and difficult to engage with (Chong and Soo, 2020).

Another challenge associated with online learning was that many of the informal opportunities to learn from peers and teachers that were present in physical learning environments were lacking in remote settings. The ability to gain help and support from teachers was reduced online (McKay et al., 2021). The ability to build and develop new relationships with peers was also difficult in online environments. However, some literature suggests that technology presented opportunities for students to transfer existing relationships online and create digital support networks through chat groups, social media, and email (Pownall et al., 2021).

The literature review recognises the complex web of engagement associated with the transition to Higher Education which included academic, intellectual, peers, student-staff and online engagement. The review has also alluded to aspects of the impact felt within these areas of engagement due to the pandemic.

3   Methodology

3.1 Introduction

This section outlines the methods of research developed to gather data related to the experiences and perspectives of first-year Education undergraduate students regarding their transition to universities in Wales. As previously stated, the report has specifically focused on gaining knowledge of the academic, social and digital student engagement prior and post transitioning to university. Based on the aim of this study, a mixed method research design was considered suitable i.e., an online questionnaire and focus group interviews. To provide a clear picture of the data collection process, this section presents information related to the mixed method approach including the timescale of the research procedure), the pilot studies and the sample of respondents. Further to this, it reveals the ethical approach the research team followed, the design of the instruments and procedures and platforms used to collect the data.

3.2 Mixed methods research design

For this study, the use of two data collection tools to collect qualitative and quantitative data were considered appropriate; as Gorad (2003) suggested, collecting qualitative and quantitative data can be seen as complementary. Qualitative data from focus groups and open-ended questionnaire responses offer rich and in-depth information, whilst Likert scale item responses in a questionnaire provide numerical data. Creswell and Plano Clark (2011) state that mixed methods research can yield insights into the processes at work from multiple views within a phenomenon, thereby increasing the credibility of results found and a more complete picture could be gained from mixed methods research (Denscombe, 2014). Furthermore, having calculated summary measures of construct validity and reliability, we find that each scale explains a significant amount of variance in the student engagement items, thus our findings indicate a high level of internal consistency and are consistent with Kraus and Coates' (2008) large-scale study, thus generalisable, see section 3.4 for further details. Focus group data are less reliable or generalisable due to COVID-19 being managed quite differently in other educational systems and at different times.

Time played a considerable factor within the research design and data collection of this study. An established scale was adopted (Krause and Coates, 2008) for the design of the questionnaires since it was specifically designed to measure first year student engagement. We selected first-year education students as the recommendations from the research would inform the research team and lecturers in education more broadly how to best support successive cohorts of students whose education has been impacted by COVID-19. The research procedure is illustrated in Figure 2.
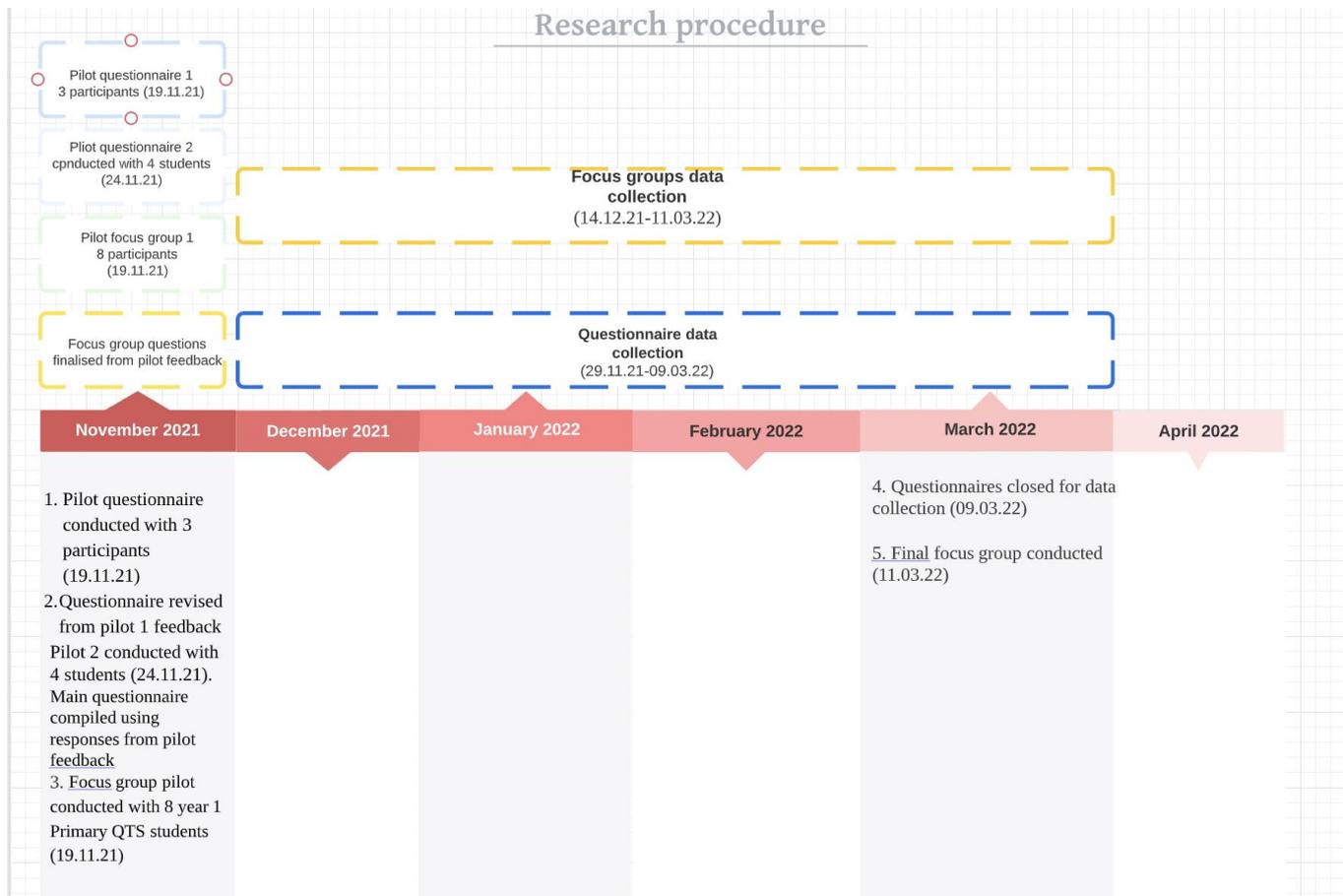
Figure 2 Illustration of Research Procedure

It might be difficult for the findings of this study of 90 first-year Education students' university transition to be generalised to other contexts. However, the combination of quantitative scale data, text questionnaire data and in-depth focus group data has enabled the research team to ensure the validity of the findings and to confirm that the latent variables through the Likert scales were dependable - as they were comparable to data collected by Krause and Coates (2008) and more recently by Chong and Soo (2021).

3.3 Pilot study

This study undertook a series of pilots before the main data collection, to enhance the validity and reliability of the research (Basit, 2010). Kumar (2019, p. 482) suggests that pilot studies should be incorporated 'to investigate the possibility of undertaking research on a larger scale and to streamline methods and procedures for the main study'. The questionnaire was initially developed and piloted with three participants (19.03.22). Feedback and findings helped to inform the second iteration of the pilot with a reduction in the questions and the question structure. The questionnaire Pilot 2 was conducted with four participants and findings again helped to adjust some of the questions and formatting of the final questionnaire. The main questionnaire was released to students on the 29th of November 2021 and was open to gather responses until the 9th March 2022. A pilot focus group was conducted with eight participants (19th November 2021); feedback and findings were utilised to inform the final structure of

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focus group questions. The number of participants within the focus group was reduced, and questions and question structure were revised from the pilot focus group interviews. Focus group data collection was conducted between mid-December 2021 and mid-March 2022.

3.4 Sample

For this study, the participants were selected by two main criteria. Firstly, that they were studying in one of the seven universities of Wales and secondly that they were first-year Education undergraduates. To ensure that participants met the set criteria, the use of a non-random sampling technique i.e., purposive sampling, was considered suitable. To invite students to take part in this study, the researcher team utilised their own institution's channels. Furthermore, the electronic survey invitation was shared with colleagues in other Welsh universities.

In total, 132 students completed the first page of the survey, but only 90 participants filled in all the questions; completion of items in the survey ranged between 87 and 90. Of these students, 69 were female, 17 males, one was gender fluid and two preferred not to say. Most were 18 to 20 years of age (77%); this was comparable to the national student body for Education. The ethnicity of the survey respondents was 88% White British, with representation from White other, Asian, Black British and Mixed ethnic groups. Again, this was comparable to the Welsh undergraduate student body. Among the 90 students, 18 agreed to participate in follow-up focus groups.

3.5 Ethical approach

Separate ethics applications were submitted and approved by the Research Ethics Committees in each of the three institutions involved in this study (Cardiff Metropolitan University, Bangor University, University of Trinity Saint David) prior to the data collection. Legal requirements in relation to the storage and use of personal data were conformed with as stipulated in the UK by the Data Protection Act 2018. Personal data is defined by the General Data Protection Regulation (GDPR) as 'any information relating to an identified or identifiable person' and required that sensitive personal data was given additional protection (BERA, 2018). All questionnaire data, focus group audio recordings and transcripts were stored securely within the university cloud infrastructure. A multi-institution data storage agreement was negotiated by all parties. In line with GDPR regulations, access to the data was restricted to the researchers conducting the research and no personal data will be kept post-study. All anonymised data will be stored on university owned OneDrive cloud storage for a period of up to ten years.

All students participated in the study with informed consent. Information about the study was detailed on the opening page of the questionnaire. Respondents were also asked for their consent before they could proceed to answer items on the questionnaire. The questionnaire concluded by asking participants to provide their contact details if they wished to be invited to be involved in focus group interviews.

Students university email addresses were only used to contact those participants that volunteered to take part in the focus group. Verbal consent was also gained before participants undertook the focus group interviews. Undergraduate students were asked to provide information about their current course/institution and previous educational institution and location, but no personal information that could be in breach of the Data Protection Act 2018. This information helped to identify any spatial patterns or subject-specific themes.

To ensure anonymity, names of settings and individual participants or any details which posed a risk to potential identification, were omitted from the study including the sample information, transcriptions, and analysis section of this report. All individual students were provided with participant pseudonyms, for example 'Clare'. The safeguarding of the participants' privacy as an ethical right was protected through confidentiality. Additionally, all students were informed that they had the right to withdrawal from the study at any point.

3.6 Data Collection Tools

This study uses a two-stage mixed methods research design drawing on data collected from first-year Education students via a questionnaire and six focus groups with between two and four participants collected over four months between December 2021 and March 2022.

3.6.1 Questionnaire

The research questionnaire was designed to better understand first year university student engagement at Welsh universities. It employed the use of a student engagement measurement developed by Krause and Coates (2008) in combination with follow-up closed and open questions. The fully bilingual questionnaire was uploaded onto the digital platform Qualtrics, and an invitation including a link to the questionnaire was shared with first-year Education students by programme leads. The population of the study was first-year Education students enrolled on a programme in one of the seven universities in Wales in the academic year 2021-22. The invitation to participate was not shared more widely via social media as there were concerns that the online platforms would not guarantee that respondents met the criteria for inclusion.

The context of this study, in the middle of a global pandemic, has affected how students engaged with certain elements of university life. The focus was on five of Krause and Coates' (2008) seven sub-scales of student engagement namely, Academic Engagement Scale (AES), Peer Engagement Scale (PES), Student-Staff Engagement Scale (SES), Intellectual Engagement Scale (IES), and Online Engagement Scale (OES). These five dimensions dealt with the academic, social, and online challenges faced by students. The Transition Engagement Scale and Beyond-class Engagement Scale were not included in the survey as students had not

experienced university life to the full due to continued social distancing measures and hybrid working patterns into the academic year 2021-22.

The first section of the survey included demographic and context questions about the participants. The following three sections of the survey focused on one of three dimensions: academic, social and digital engagement. The academic engagement section of the survey included 14 items from the Academic Engagement Scale (AES) and Intellectual Engagement Scale (IES) item. The next section on social engagement encompassed 17 items from the Peer Engagement Scale (PES) and Student-Staff Engagement Scale (SES) items. The final section on online engagement contained 13 items from the Online Engagement Scale (OES). The survey was designed so that for each section on academic, social and digital engagement, students would first complete the set of 5-point Likert-type engagement items (1 = strongly disagree, 2 = disagree, 3 = normal, 4 = agree, 5 = strongly agree) adapted from Krause and Coates' (2008) calibrated scales of student engagement, then answer a 7-point Likert-type question asking how prepared they felt to make the transition to university (1=very unprepared, 2=unprepared, 3=slightly unprepared, 4=neither prepared or unprepared, 5=slightly prepared, 6=prepared, 7=very prepared). Finally, each section finished with one or two open questions that asked participants to identify how they could be further supported before and during the transition to university.

Once collected, these data enabled the team to confirm the measurement validity of the Student Engagement Scale (SES), while ensuring data were relevant to a study carried out during the COVID-19 pandemic. The survey was developed and distributed using the Qualtrics Survey Software. Post completing the data collection process, the output generated via the survey was exported, processed and analysed using IBM SPSS.

3.6.2 Focus group

The sample for this stage of the research was obtained from the students' responses to the survey question that asked about their willingness to participate in the focus groups. The request to the focus group participation was the last question in the questionnaire. Twenty students responded positively and provided their email addresses. Following this, an email which introduced the researchers and explained the purpose of the second stage of the research was sent to those survey participants who had provided their contact details. The respondents were invited to take part in an online focus group and to confirm their participation by email. Through this process, 18 students volunteered for the second stage of data collection, and a second email was sent to them to schedule their focus group. All focus group interviews were conducted on Microsoft Teams between December 2021 and March 2022. Focus groups were facilitated by members of the research team, but not by academic staff directly involved in the delivery of the programmes on which the students were enrolled. This reduced the influence of power hierarchies on participant responses, where individuals could feel pressured to answer in a particular way.

The focus group was designed to prompt students to talk as freely as possible and in more depth about their experiences prior and during transitioning to Higher Education. A semi-structured focus group guide was produced which outlined areas to be covered (see Appendix B: Focus group schedule). The instrument was divided into three sections. In the first two sections, the students were asked to provide a personal account of their experiences in terms of their academic, social and digital preparedness before and during their transition to Higher Education. In the final section, the students gave their views on how schools, colleges, and universities could improve students' experiences when transitioning to universities.

Prior to attending the focus group interviews, students were briefed about the process of data collection, and the option to withdraw at any stage was explained. With respondents' consent, their answers were digitally audio recorded using the Microsoft Teams record feature. Students were also informed that their responses would be anonymised and stored securely. In total, six focus groups were conducted and each focus group consisted of three to four students. Each focus group lasted approximately 60 minutes.

3.7 Data Analysis

Survey data
To reiterate, the quantitative data collected from the online survey were analysed using the IBM SPSS, version 27. This software enabled the identification of frequencies, test the reliability of scales and compute variables. Depending on the item analysed, further descriptive statistics such as the mean scores and standard deviation (SD) were conducted to represent students' satisfaction with the statements encompassed in the five engagement scales. Using the rank order test, the results were presented in a descending order. The open-ended questions of the online survey were analysed qualitatively. All the responses were manually coded, and a five-stage analysis procedure was employed.

Focus group data
Focus group audio recordings were transcribed by the researchers and then analysed following a reflexive thematic analysis (Braun and Clarke, 2022). Each participant was assigned a number to ensure their anonymity. To ensure the careful recording of the statements, the coding process was performed using the NVivo 10 software program; an iterative process was conducted to analyse raw data to identify codes which could be developed from the transcripts. These codes were examined in parallel with other codes to develop themes that could be separated or removed. A thematic analysis was applied to examine the focus group transcripts; it consisted of a five-phase approach (Bryman, 2016):

1) A familiarisation process was involved, and the transcripts were read several times to help the researchers familiarise themselves with the data by listening to

the recordings, re-reading the transcribed data, and searching for passages of text with respect to the research questions.

2) After data familiarisation, codes and sub-codes were developed for segments of data based on the students' responses. In total, 66 initial codes were identified.

3) The third step entailed determining potential connections among the codes to explore whether certain ideas, concepts or meanings were repeated. This step was important, as codes were required to organise the coded data and to provide a clear picture of the data and the researchers' interpretations.

4) Themes were developed by grouping the codes. This process ensured a quality control that the themes captured the content of the data, and they meaningfully answered the research questions.

5) Finally, the last step was to identify how the themes were connected to each other based on the relationships, patterns, and themes identified in the data. As part of this process, quotations from the participants were chosen to illustrate their perceptions relevant to each theme.

3.8 Limitations

The key limitations in this study related to time, access to participants and survey fatigue. The biggest factor affecting the choices we made as we developed and collected research was time. For example, time limited the number of focus groups we could schedule, as some students could not participate when on school placement. Further, our survey was released mid-December, but this was at a point when undergraduates had finished their first semester and would not spend the time checking their university email account. We invited participants to take part in the study via email and by dropping into university sessions. This meant that participants mostly came from the institutions in which the research team worked, if we were to revise this approach, we would ask to drop into more university sessions at different institutions to garner a broader range of participants representing all the HEIs across Wales. Surveys are an effective tool to collect data. However, the frequent use of surveys during the COVID-19 pandemic to explore student experiences and perceptions on remote teaching, assessment and so on has resulted in survey fatigue, meaning many students fail to open surveys and some open a survey, but tend not to complete them. In this study 139 students completed the first page with opt in consent questions, but 49 did not complete all the questions. This resulted in a selected sample for the wider student body.

4 Research findings

This section of the report presents the research findings in response to the study's four research questions introduced in the first section of the report. As a reminder, the first three research questions focus on undergraduate Education students' academic, social, and digital engagement during the COVID-19 pandemic, and the fourth question ask students what recommendations they had to improve engagement. Before reporting on the first-year students' preparedness and engagement findings, the following section sets out the preliminary analysis of the scale data using Cronbach's alpha coefficient of reliability test (α) - a measure of scale reliability.

4.1 Preliminary analysis and reliability

To ensure the reliability of the five scales used in the survey, the Cronbach's alpha coefficient of reliability test (α) was conducted. As shown in Table 1, the alpha values ranged between 0.74 and 0.84. The alpha scores have surpassed the acceptance level of 0.7, thus the scales in the instrument have acceptable internal consistency and this gives us the confidence that our survey is reliable (Taber, 2018).

Table 1 Measurement Instrument Reliability Statistics

	No of Items	Cronbach's Alpha
Intellectual engagement scale	5	0.75
Academic engagement scale	9	0.74
Peer engagement scale	9	0.84
Student-staff engagement scale	8	0.81
Online engagement scale	13	0.82

4.2 Statistics for the five engagement scales

The results for the mean values presented in the tables below have been arranged in a descending order. The sample statistics of the first-year university student engagement in the five dimensions comprised in Table 2 were highly above the average of 2.5. Based on the findings, the sample statistics demonstrated that the student-staff engagement obtained the highest mean score, followed by intellectual engagement. In contrast, the first-year students' academic engagement acquired the weakest mean value.

Table 2 Descriptive statistics of first year student engagement qualities (n=90)

	Mean	Standard deviation	Rank order
Student-staff engagement (SE)	3.90	0.51	1
Intellectual engagement (IE)	3.67	0.62	2
Peer engagement (PE)	3.61	0.67	3
Online engagement (OE)	3.60	0.54	4
Academic engagement (AE)	3.36	0.55	5

On review of the 44 engagement items in this study, the top five items with a strong level of student engagement were as follows:

1 I usually complete all my assignments (AE; 4.46)
2 I feel confident that at least one of my teachers knows my name (SE; 4.19)
3 I regularly use the web for study purposes (OE; 4.15)
4 Using email to contact lecturers/tutors is very useful (OE; 4.12)
5 I rarely skip classes (AE; 4.09)

From the 44 engagement items in the study, the items where student engagement was the weakest was as follows:

40 Subjects offered online with no face-to-face classes are useful (OE; 2.98)
41 I regularly study on the weekends (AE; 2.81)
42 I regularly borrow course notes from friends on the module (PE; 2.72)
43 I regularly borrow books from the university library (AE; 2.69)
44 I regularly use email to contact friends in my course (OE; 2.47)

These findings indicate that the Student-staff engagement scale obtained the highest mean value, and the Academic engagement scale acquired the weakest score. The Academic engagement scale, followed by the Online engagement scale, scored the smallest mean values; nonetheless, items from both scales could be identified in the top five items with the highest mean values of student engagement. Arguably, the results from the top five items with a strong level of student engagement and the top five items with the weakest student engagement could be used to determine the profile of the first-year student.

4.3 First year students' academic preparedness and engagement

This section presents the research findings in relation to students' academic preparedness for, and engagement at, university. It draws on survey and focus group data to answer the first research question: How academically prepared and engaged were first-year Education students during the COVID-19 pandemic? This section first presents the results related to academic engagement then moves attention to intellectual engagement. Following Krause and Coates' (2008) definition for academic engagement this encompasses a students' ability to manage study time, and the strategies adopted to achieve success in their first year at university. Intellectual engagement refers to the extent to which their subjects provide stimulation and challenge and their overall satisfaction with their studies (Krause and Coates, 2008).

4.3.1 Academic engagement scale: findings
Survey data indicated that three quarters (67/90) of students surveyed felt they were, to some degree, prepared for their academic transition to university. This overarching figure could be broken down by the degree of preparedness, with 37% of the

respondents rating themselves as academically 'prepared', 28% 'slightly prepared' and 10% 'very prepared'. There was a concern that six students rated themselves as 'very unprepared' and five students rated themselves as 'unprepared' to describe their academic preparation for university. This gap in academic preparedness was more significant than the gap for social or digital preparedness.

The results in Table 3 reveal that the highest mean scores in the Academic Engagement scale are around completing all the assignments and rarely skipping classes. This highlights that students consider completing assignments, followed by attending classes, as the most essential elements of their studies. Based on this finding, it could be argued that the sample understood the importance of developing academic skills such as conducting research and academic writing. Equally, attending classes allowed the students to interact with their peers and lecturers. Conversely, regularly borrowing books from the library and studying on the weekends scored the lowest mean values in this scale. Students choosing not to borrow books from the library on a regular basis was somewhat expected as in the digital age, provision of access to online resources has become prevalent. Lastly, deciding not to use the weekends as an extended time when students could study may be explained by the fact that this sample of students developed good time management skills or they had to allocate time for other commitments such as family, children, jobs and enjoying leisure time.

Table 3 Descriptive statistics of first year student academic engagement items

Academic engagement	mean	standard deviation	variance	count
I usually complete all my assignments	4.46	0.85	0.73	89
I rarely skip classes	4.09	0.96	0.92	89
I regularly ask questions in class	3.31	1.08	1.17	89
I am strategic about the way I manage my academic workload	3.31	0.89	0.79	89
I usually come to class having completed readings	3.21	0.99	0.99	89
I regularly seek advice and help from teaching staff	3.20	0.92	0.85	89
I regularly make class presentations	3.15	0.87	0.76	89
I regularly study on the weekends	2.81	1.03	1.07	89
I regularly borrow books from the university library	2.69	1.13	1.29	89

4.3.2 Academic engagement: focus group findings

The three themes created for this engagement scale were the following: Academic Support, Shifting Pedagogical Practices, and Learning Spaces.

Theme 1: Academic support

The importance of feeling well supported was a point made by all students who participated in the focus groups. Students felt that the time before their programme

officially started and during the first few months at university were the two key periods when support was most needed. Further, they discussed the importance of swift and easy access to university services and staff should they needed them at any point during the programme. Most students reported how they were contacted for further information and documents in support of their application ahead of the programme, but ultimately felt that this time could have been more productively spent engaging in pre-university academic skills development (this is explored further in connection to academic competences; see section 4.3.4). In the following extract, Lauren (all names are pseudonyms) questioned the notion and pace of the university transition:

> We got contacted a few times by […] before starting uni and obviously we were all like applying in the previous year. So, it was like getting contacted about doing DBS checks and stuff like that, and other than that, there wasn't really much transition was there? It was kind of like the first day it was just go! So yeah, it kind of went from zero to one hundred and terms of academic preparedness. It wasn't much to get you ready.

Lauren was not the only student to mention the quiet before the course; others discussed how wait could have been used more productively, but instead it was a time when anxieties and apprehension bubbled up. Theo and Jamie explained how they were more apprehensive about going to university. Pat mentioned that their anxieties were exaggerated as they were nervous of the unknown, moving to a new city and having to adjust to the new setting and new housemates. Fortunately for Pat, they felt OK about the upheaval to university as at least they had their partner there for support.

In this quote, Sarah described her induction experience:

> I felt like there wasn't really any transition was there? Because of COVID-19 as well like, we didn't know each other at all. We literally turned up on the day. But that was that. Hi, everyone, you know, this is your group, and that was pretty much it.

Another student, Stephen, was ill for the formal induction, so having joined late, they explained 'this made it even worse for me, it was a nerve-wracking day to be fair, but it was alright in the end'. These different experiences highlighted how the student body was not homogenous and prior academic, professional and lived experiences of students meant that a range of support mechanisms needed to be in place for students. The support mechanisms needed to be available before, during and after the formal induction week and clearly signposted so students knew where to find them.

When discussing pre-university educational experiences, students reported that teachers in schools and colleges prioritised specification content and assessments over university transition activities. This resulted in a packed curriculum, a need to make up lost learning time and an emphasis put on the importance of examination results for schools and students. They suggested that social distancing measures

limited the number of visitors such as university lecturers and alumni students, it also limited their ability to travel and attend in-person university open days. Hence, their choices were informed by online events and a university imagination which they did not know reflected reality. None of the students in the focus group attended any open days for universities, Olly could not even recall if they were an option, instead the pupil 'just watched those pre-recorded university tour videos', then added 'that was my idea what university was like'.

The experiences of this group of students were likely to mirror the 2022 intake, who again would have little experience of university transition activities. Reflecting on a module on transitions and their own school experience, Samira suggested that 'sixth formers are not equipped to deal with uni', she went on to explain 'they're not taught how to deal with the workloads or with the different styles of teaching or the settings that they're going into'. Students acknowledged that they needed an understanding of their new learning context and knowledge about university services and staff, but at times they did not know how to navigate the online platforms or who to ask to support this process. Developing organisational knowledge could be disorientating and is a key issue associated with the transition to university. However, it was exacerbated during the pandemic when students were not often on campus, so they could not visit administration or lecturers in their offices.

Theme 2: Shifting pedagogical practices
Teaching from 'behind the line' in classrooms and online disrupted usual pedagogical practices during the pandemic. Students described having a bumpy ride, following unconventional routes to university. Even for students who followed a straight route from school or college to university, their schooling and examinations were impacted. In some cases, students experienced school closures, early termination of school and no formal examinations. A common theme from students was that alternative post-16 assessments such as Teacher Assessed Grades and Centre Assessed Grades meant they had no chance to academically prove themselves; this influenced their confidence, self-worth and learner identity. Tilly was one of the students who expressed relief about not having to undertake any A level examinations:

> I really struggled in exams; I hate them. I could know all the content in the world. And I just, I really just stress out and I panic in exams. So, for me, it was fun because I knew if I was doing it, it could just be coursework, which I do enjoy.

Olly was another student who was quite happy that exams were cancelled. The pupil described sixth form as being 'a bit of a cakewalk', explaining:

> Because there's no exams and I thought there was. I had maybe a couple of tests. I thought coursework is easy to do in a cover period when you have the time. And, for me, as the type of student I was, that was so much easier than just doing an exam, because I performed loads better in coursework than I did in exams.

The cancellation of examinations was not so good for home learners. David had struggled in a couple of colleges, and decided to be home schooled and be entered for the examinations as an independent candidate, so when the summer examination series was cancelled, he had to approach universities directly, knowing that he did not have the qualifications needed:

> I had to kind of directly speak to universities and see if they'd be willing to offer me a chance or my experience, because I've got quite a lot of experience and kind of just my personality and luckily enough, that was enough to get me a few.

For some of the students in the focus groups, they took a year out prior to starting university; here Iris explains why they felt they were not ready to transition to university:

> To be honest, I did not feel ready for university only because when I finished Year 13, it was the beginning of the big lockdown. So, instead of finishing in June, we finished in March. So, we didn't do any of our exams and I was declined for nursing, I decided not to go into clearing and decided to take the gap year, because I didn't feel like I knew enough for like, to go into other courses.

Another student who did not follow a traditional route, mentioned how they felt more comfortable and ready to approach university and could draw on prior knowledge to support their studies, they were motivated to learn, saying 'I kind of need this to progress' (Chloe).

Emergency remote teaching at school and college during the pandemic equated to more direct instruction and delivery of knowledge until online pedagogy improved as teachers developed their digital competences, this is discussed in section 4.5.2. Here it is important to note that students felt that they had missed out on many academic opportunities and extra-curricular activities. This deficit of experience was discussed during the focus groups and focused on some of the mundane everyday experiences such as working with peers, groupwork, field work, school sports and simply being around other people in an educational setting. Schools and colleges tended to approach learning and teaching differently, and students appreciated lecturers who provided support and were responsive to student needs during and after seminars.

Students made a clear distinction between face-to-face teaching sessions and online teaching sessions. Face-to-face learning was considered by some students as more valuable; students also described a significant shift in mindset to learn in physical settings as opposed to passively listening at home. Equally, the students stated that they were more focused as they had to get ready and drive to university and they were more ready to learn rather than rolling out of bed to turn an online seminar on. Tilly noted the following:

> You have to get up, get ready, go. You're there. Now, you don't want to waste time, because you've just spent, you know, like 10 pounds on petrol trying to get

there. So, you want to try and make the most of it. And yeah, I just find it more beneficial to be in person and on campus.

A preference for in-person academic sessions was discussed by all the participants in the focus groups. Three students made the following comments:

> The in-person ones [seminars], are like, they're more interactive, everyone contributes, like, you get a lot, it's a lot more beneficial being in person because you didn't get people talking online (Tara).

> Where your lecturer saw your face was confused, they could go over and help you, they could see that you were actually distressed or whatever (Pat).

> Just having that human interaction being able to speak to your lecturer. And then once you finish whilst it's all in your head, go off to the library and still be in that setting to do the work (Tilly).

The quote from the last student highlighted how in-person, on-campus engagement got them into a learning mindset during a seminar, and how this could effectively prepare them for a session in the library to further extend this learning period.

Theme 3: Learning spaces
Learning in digital spaces is discussed in section 4.5.2; here, the importance of physical learning spaces was explored. During the focus groups, students mentioned that they valued learning in a physical space with their lecturers and peers because they had the opportunity for dialogue, interactions, debate and flexibility in how the session developed. They also valued seminars due to the level of academic challenge; this is something which was missing from the online experience. Subject matter and ideas introduced in seminars would continue to be discussed over coffee, in the library and later in the day. For some students, they valued in-person seminars and lectures for the simple fact that they prepared for the day, travelled to campus, paid for parking, so they would be fully present, motivated, and eager to learn, due to their efforts to be there. Students were surprised how little they would be on campus, to some in the focus groups this was disappointing.

The choice of where to study has always been an issue for university students, especially for those without a dedicated study space at home and those who lived in student accommodation. Here, Tara described their dilemma:

> So, I'm on campus, like, I'm living on campus at the moment like, my like, bedroom has become like my study area, because that's all I've got. And yeah, it is a weird thing because at home like I would have never studied in my bedroom, because I felt like, that wasn't the place to study but, here, I like have to because I don't have much of the choice, like many other choices. But like, sometimes I'll go to the library to do work, sometimes I go work in the kitchen.

Space was more of an issue during the official lockdowns. During the focus groups, students talked about where they would study; these spaces included their own room, a bed, the kitchen table, the conservatory and so on. There was recognition that students would not usually study in these places for so many hours at a time, but they adapted to pandemic times by making do. Where students lived with partners or parents who worked from home during the pandemic, it was the income generators who tended to get priority use of prime home working spaces such as the office, kitchen table or conservatory. Two students mentioned having alternative quiet places where they could study outside the home, one studied in the caravan parked on the drive and another visited the family coffee shop that at the time was closed to the public.

Some public educational spaces were rarely used, even after the government lockdowns were lifted, university libraries were a prime example. Students adapted to studying in a variety of locations, Tilly recalled 'I go to Starbucks kind of put my headphones in' and others mentioned university cafes and eateries as places they would also go to study. Where students had a quiet study space without disruption at home, their preference was to work there, it was deemed safer. However, learning spaces in the home were often compromised as many of these spaces were shared, so conflict and tension were common, for example, partners, parents, children, and pets often appeared on online meetings. Hanna recalled 'my mom had come in and asked me if I wanted a cup of tea', which they felt was kind, but also distracting. Few students mentioned a spare room, a home study, or a study desk in their room.

Students articulated a clear preference for separating their personal and student life, as this has been a struggle during the pandemic. Consequently, they valued the educational spaces on campus which included the library, cafes, and other public spaces. Clare liked going to the library to study because they 'liked being in the education zone'. On one campus, education books were housed close to where lectures and seminars were held, but since these moved to the main university library, students found it inconvenient to use the library.

The physical closure of libraries during the pandemic saw university students make a greater use of digital resources, but as one student recalls, this was not the case in college. They felt it was necessary to support their A level studies by buying additional textbooks:

> I bought some of the books that were recommended at the start of the year. Obviously, college is a bit different. You don't get a loan, there's no money so I have to pay out of pocket. It was £30 per book and I think I bought about four or five and if it wasn't for the fact that I bought those, then I wouldn't have had a chance to be honest, because a lot of the other students struggled. I know I was quite lucky because I bought those (Sarah).

This account raised the issue that not all students could afford to supplement their education in this way.

Summary of academic engagement focus group findings
The findings related to academic engagement of students played a critical role in their transition to higher education. Expectations for student support existed from the moment students accepted their university place on their chosen courses. Findings highlighted the often-neglected pre university experience which can be utilized by institutions to help students to develop relationships with their peers, develop academic skills and navigate the extensive support available to them at university. Findings illustrated the need for academic support with many students feeling unprepared for starting university especially from alternative routes into higher education.

Students shared their experience of shifting pedagogical practices imposed by the pandemic. Although the ability to evade traditional examinations brought several students initial happiness this impacted self-worth and learner identity in the long term. Space also became an important factor with regards to where students felt they could learn during the pandemic as personal and student life became blurred as bedrooms became classrooms. There was a noticeable preference for learning in a physical space as opposed to a digital territory. Students described how physical spaces were deemed as more valuable as they felt more motivated, present and able to interact with peers and tutors in a deeper and more meaningful way.

4.3.3 Intellectual engagement scale: findings
The Intellectual engagement scale responses in Table 4 exposed that students finding their course intellectually stimulating and lecturers often stimulating students' interest in the subjects have acquired the highest mean values. In contrast, being usually motivated to study and getting a lot of satisfaction from studying has obtained the weakest mean values. These results could indicate that this sample enjoyed being academically challenged and being taught by lecturers that made their subjects engaging as students were not usually motivated to study.

Table 4 Descriptive statistics of first year student intellectual engagement items

Intellectual Engagement Scale	mean	standard deviation	variance	count
I am finding my course intellectually stimulating	3.84	0.60	0.37	88
Lectures often stimulate my interest in the subjects	3.80	0.76	0.57	89
I enjoy the intellectual challenge of subjects I am studying	3.78	0.75	0.56	90
I get a lot of satisfaction from studying	3.66	0.75	0.57	89
I am usually motivated to study	3.39	1.04	1.08	89

4.3.4 Intellectual engagement: focus group findings

The three themes which were developed from the intellectual engagement scale were: Student identity, Academic competences and Learning time.

Theme 1: Student identity

The difference between pre-university and university experiences was particularly marked over the last couple of years, as the pandemic has impacted on all aspects of education across the life phases. Transitions which were usually challenging have become even more so. Students in the focus groups were quite matter of fact about not being able to visit universities, talk to alumni students or gain a clear picture of what to expect when they started the programmes. Even with this challenging and chaotic experience, many said how they quickly got over their initial anxieties and now felt a sense of belonging at university.

There was recognition that they had formed smaller study groups than usual, but felt 'lucky,' 'pleased' and 'happy' about the people they spent their time with. In this quote, Samira worried that they would not fit in due to their age: 'I was a little bit concerned about being the oldest, I wasn't sure how old I was'. The participant follows this up by pointing out that their age was not an issue to anyone else, as students were pleased to meet and connect with others who had a shared interest in education, learning and working together. Lauren was also content about their peers, in this quote, the pupil talked about their tutor group:

> We've been lucky really, in this tutor group we are in, because we all get on and we all kind of have each other's back in a sense when it comes to work and assignments and stuff. So that's really, really nice to have.

Whether having a shared purpose or being lucky with the people in their study groups, developing a sense of belonging and identity was an important aspect of academic life. As the connections and interactions with peers and lecturers was developed in later sections on peer engagement and student-staff engagement, we could conclude here by reiterating how the students in this study have shown a great deal of resilience in the transition to university. This is no doubt linked to the seismic shift in societal and

education practices which have been experienced since the first lockdown in March 2020.

Theme 2: Academic competences

One of the key issues raised by students in this investigation was their perception that they should arrive at university with the full complement of academic skills to be able to draft high-quality essays. One student in a focus group explained:

> When I got my first assignment, I knew about referencing and I started doing and I thought after I started doing that, I was like, oh my God, what am I supposed to be doing? I had not a clue what I was supposed to do for referencing and I spent about an hour just like looking at my computer screen going "For God's sake". For the first couple of weeks, one of the lectures we had would show us how to do it and they had like a literally a half a seminar on it... I think a lot of us are somewhat clueless because throughout sixth form, throughout my entire time in school, I thought I only had to use referencing once. Yeah, once so it was kind of like a new thing (Olly).

Even when students arrived at university with basic academic competences, they soon realised that some knowledge and skills would not be transferable to the new context and that other skills would need to be improved. One student commented:

> Yeah, we were thrown a bit into the deep end with referencing because I, like a few people to be fair, had experience with referencing, but they were different styles of referencing, but you know, they still got the idea of it, whereas I've never done referencing in my entire life (Stephen).

In response to this point, another student in the fifth focus group stated that even having completed an access course to be able to get to university, this did not fully prepare them for the reality of completing university assignments and that that there was much more for them to learn:

> I did two years in college beforehand, where I had to do academic assignments and obviously it was an access course to be able to get into university. So, I had a bit of experience with regards to the assignments, but nothing like it actually is, to be honest (Sarah).

It is important to note that the students, although only a couple of months into their first-year programme, were now aware of the different referencing styles used by different institutions and journals for different purposes. Also, that, it was incumbent on them to select the correct referencing style for their assignments. In the focus group discussions around who should take responsibility for developing academic skills, one student highlighted the importance of self-learning at university:

> At the moment it is just learning a little bit more of what I already know, just like developing those kind of core ideas, but if I needed to learn a bit more to develop

other areas, I think there's definitely the opportunities for that, whether that just be going to my tutor, or going to my lecturer... I also think we have to do a lot of self-learning and I think it's, part of university as well to self-teach how to maybe do something different on Word or do something extra, use different apps and stuff. There's kind of so much out there, to help us with that, I think it's pretty straightforward (David).

I still really struggle with it, but they have like a PDF document which is how Bangor, Harvard referencing. I've never asked about it and I just kind of trial and error and hope for the best (Keighley).

Another student gave clarity around referencing and the reliable sources of information to use in their work:

When you're in university, you need to know how to do reference and how to use reliable sources. For example, using Google Scholar instead of actual Google. I don't think in school, I was taught any of that I don't remember. And especially having taken that gap year, I had to kind of teach myself again, as well as try and find, like, teach myself again, how to get into that, into that mindset of Okay, now, I sit down, do my work kind of like, give, it's kind of like, improving and trying to develop skills as well, which, I mean, it's, it's can it can be done independently, but then it would have, it would have been much easier if schools like give you that little bit of a push or like, you know, just started that path for you to go if you know what I mean (Iris).

Theme 3: Learning time
Time emerged as an important theme from the focus group data. According to participants, when institutions initially adopted an approach to learning exclusively online during the national lockdowns they were expected to be online all day, whereas, later in the pandemic, hybrid blends of face-to-face taught sessions mixed with online sessions were experienced by students across the sample and these were timetabled to be shorter and more effective. Some students talked about being dissatisfied during the emergency remote teaching phase, as they could not see the need to be online all day. For example, a student described their college timetable which entailed 'three days a week from nine until three online the whole time' (Hanna). This pattern was not universal, and others discussed wanting more engagement while based at home. Students accepted that early online teaching sessions were a learning curve for them and their teachers, then discussed having higher expectations now.

Students appreciated online sessions which are punctual, well planned and skilled staff able to use the session time effectively. They also discussed how they made individual choices around using their study time effectively. For example, Clare said how she would 'listen to lectures on 1.25 speed most of the time just to go through them all' and Tilly described how they would '

The high cost of a university education meant that most of the students talked about dividing their time between paid work and study. One student described how their week involved 'one morning on campus, two online seminars and recorded lectures' (Pat) and how this structure enabled them to work three days a week to pay the bills. This pattern of work has led to an intensification of student life, with students often prioritising their studies on days with lectures and seminars, so that they could take on paid work on alternative days. The following quote was a student explaining how they combined study and work:

> I do work two jobs, so I tried to kind of have Monday, Tuesday as my smash out uni workdays, and then Wednesday, Thursday and Friday is when I do those two jobs. So, I work in a cafe in the day and then I do delivery driving at night. So, when the cafe is quiet, I will watch a lecture or if someone can cover me if it's quiet, I will just know do my notes and write stuff up. Same as when I'm waiting around for deliveries, I kind of just do it in between. It works quite well actually. I didn't think it would, but yeah, same as the weekend, Saturdays I try not to do any work. I think I want one day just to chill and not have to think about anything.

Many of the decisions around study habits relate to using time effectively. Equally, all the students we talked to tried to keep at least a day a week free from work or studies to provide time to relax and spend as their choose. One student said 'I'll try and get as much done as I can to try and keep it in the week so, I'm not doing too much at the weekends' (Samira). Another student described weekends as the time to spend 'with my friends and going out and stuff' (Hanna). This was a typical pattern of work for most of the students, however, students who were also parents had different demands on their time and would try to study during the school day to free up time to dedicate to the family. Chloe expanded this point:

> I tend to try and study while my daughter is at school because when she comes home, I won't be able to get anything done. So, I try and give myself some steady days while she's at school and I will try and get assignments or arrange to get them done. So then when the evenings and the weekends come, I've got time for her then.

Students recognise that they have full weeks, but that they can balance the competing demands of study-work-life on their time One issue which they did raise was the feeling of frustration when university timetables were changed without notice, as this had implications for work patterns and knock-on impacts on other aspects of their life.

Summary of intellectual engagement focus group findings
These findings highlighted the importance of student identity and in particular the value of creating a sense of belonging which can play an important role in their transition and a student's academic life. The ability to cultivate a student identity can be challenging without the additional barrier of imposed national lockdowns. Also, with limited opportunities to physically visit universities during the pandemic many students were unable to build an understanding of the expectations of university life. A further

mismatch of expectations was noted as students described an over expectation from universities about their academic skill with several students noting their personal struggle and limited experience with referencing and using citations. Another commonly cited challenge related to intellectual engagement was management of learning time as students described the range of competing time demands on their week which included childcare, work and course content. This reflected the changing nature of studying at university in the modern era in which many students must work whilst they study to be able to afford the high tuition fees and rising living costs. Nevertheless, despite these challenges this student cohort demonstrated resilience during this time, as they were able to form connections with peers and tutors even from the confines of their homes and manage their time productively.

4.4 First year students' social preparedness and engagement

This section presents the research findings in relation to students' social preparedness for, and engagement at, university. It draws on survey and focus group data to answer the second research question: How socially prepared and engaged were first-year Education students during the COVID-19 pandemic? This section first presents findings related to peer engagement then moves attention to student-staff engagement.

4.4.1 Peer engagement scale: findings

The results in Table 5 show that the highest scoring items comprised in the Peer engagement scale are around the positive attitude towards learning among the students, succeeded by feeling as part of a group of staff and peers who are committed to learning. These findings demonstrated that students attending university desire to excel in their studies. Further information related to the aforementioned items is provided in the focus group results (see Theme 1 and Theme 2 in section 4.4.2). Concerning the lowest mean values, this sample of students revealed that they did not borrow course notes from the friends in the same module and did not commonly study with other students. As previously indicated, students tended to attend all their classes. This could explain why they did not need to borrow course notes from their peers. Moreover, they potentially preferred to study alone.

Table 5 Descriptive statistics of first-year student peer engagement items

Peer Engagement Scale	mean	standard deviation	variance	count
There is a positive attitude towards learning among my fellow students	4.01	0.74	0.54	88
I feel part of a group of students and staff committed to learning	3.86	0.82	0.67	88
I regularly work with other students on course areas with which I have problems	3.85	0.92	0.84	88
Studying with other students is very useful to me	3.84	0.90	0.80	88
I regularly work with other students on projects during class	3.80	0.87	0.76	88
I regularly get together with other students to discuss subjects/units	3.61	0.96	0.93	88
I regularly work with my peers outside of class on a group assignment	3.55	1.02	1.02	88
I regularly study with other students	3.47	1.07	1.15	88
I regularly borrow course notes from friends in the same module	2.72	1.02	1.03	88

4.4.2 Peer engagement: focus group findings

The three themes created for this scale are: Connection with others, Emotional/Peer support, and Isolation/Loneliness.

Theme 1: Connection with others

The significance of connecting with others was highlighted as an important part of students first year experience. During the focus group interviews, students identified that opportunities to connect with others was an important part of developing their sense of belonging as a university student. Importantly too, students valued in person teaching and utilised these opportunities to interact and connect with others. This was summarised by some participants, who claimed:

> I preferred on site sessions and with having them at the uni now. I find it a lot better and a lot easier because we can interact with it more than what we can online. It helps you as a person develop your skills, you get to learn new skills from other people around you that you may not be 100% with or completely competent doing and then vice versa (Jamie).

> I think it is pretty easy to make friends in that sense and then pretty early on, we had a lecture that put us in groups or presentation. We didn't pick those groups, you just like you people go together and I found that to be like, really fun, it was a bit stressful. But it was like at that's where my favourite experiences from uni so far just getting merged with different people and be like let's do presentation. And it was so fun, like from that I made more friends and so (Keighley).

At times, students felt their connection with others was lost during periods of lockdown prior to university, and they had to adjust to socialising with new people. Chloe highlighted 'I was a little bit nervous to begin with, I think, being at home quite a lot and then having to be around lots of people I didn't know that was a bit. That was a bit daunting'. Moreover, Keighley stated 'It was stressful because, like, I remember coming out of lockdown I was very, like, socially anxious, so I kind of had to, like, get over that a little bit and just put myself out there and just trying be confident'. However, at university students enjoyed socialising with students their own age, with similar interests. One student highlighted:

> I think because especially having just gone through two lockdowns like we had, it was nice to feel like we were able to kind of meet more people our own age and kind of have that socialization because a lot of us have been stuck in our same bubbles, you know, like not being able to see many people (Lauren).

As well as in formal settings, students valued informal opportunities to connect with other during on-campus time. For example, they valued the time spent in libraries, cafes and bars, and the impact this had on developing friendships with others. Ellie stated that:

> And then what would quite often happen as well, we on a Friday in semester one, we'd have a lecture and then I think we had an hour break and then another lecture, so everybody from our course would go to like the Bistro, which is like a little cafe thing and that's how people kind of made friends.

One participant appreciated any opportunity to socialise in person. Pat mentioned 'I like social interaction. I don't thrive in a space where I can't see, people, I guess. It's uh, it just, it just feels odd to me'. To conclude, students highlighted the significance of providing more opportunities to socialise to develop their connection with others. This was summarised by some participants who suggested:

> So, I feel like if we had more face-to-face interactions, we'd probably be maybe a little bit closer, or, you know, our socialising might be a bit better. For me personally, anyway (Chloe).

> It meant that we had time to socialize away from, like academics and as much as it was very awkward the first couple of weeks that like people were just, it was like people were really trying to make conversation. Now it's really easy, like now you walk in in your talk to like everybody in our lectures. Like I don't think there's a single person that I don't know or wouldn't be happy working where they're talking to either (Ellie).

Theme 2: Emotional support from peers
Emotional/Peer support was an important coping strategy during students' time before university and importantly too, at university. This support was evident both formally, on campus, and informally via applications including WhatsApp. Interestingly, students

recognised the benefit of helping each other through this challenging time and there was a significant feeling of togetherness during the focus group interviews. This was summarised well by two of the students who emphasised the significance of the peer support they received during the COVID-19 pandemic:

> I think it's also then know when you've got someone to text if you need, once we leave university, you're not by yourself like if you sat at your screen and you think I am seriously struggling. Just being able to kind of like either someone say yeah, me too, that helps in itself or someone be like why don't you try looking at it this way? It's just having that contact of someone that is literally doing the same thing as you and going through exactly the same thing as you (Lauren).

> Our own group chat at the end of it, I think we would have all had mental breakdowns by now. But we've got that, we've got that support system. So, we have all, we all help each other. I mean, genuinely, I'm happy to help, anyway (Sarah).

Students, however, accepted that the support they received from peers was dependent on how well they mixed with their seminar group/year group. Students also made a link between effective emotional/peer support and their learning. This was evident in a response from one student during the focus group interviews:

> You know, having a good group like, also like aids that you're learning as well, do you know what I mean? It helps it massively because you're having fun with your peers and if you're having fun then you learn much better than if you sat there not talking, bored out your mind. You know, you don't really get anything in your head then we don't learn anything (Stephen).

> I go to Ellie because, I know she probably knows the answer already, or we can talk through it and it's likely because we have a kind of similar mindset when it comes to work where can we found that a lot doing work together and it's likely that we'll probably struggling with the same thing. So it's helpful to just talk it out and be kind of in an informal setting and just work out together (Keighley).

The concept of a 'lucky dip' was significant within this theme. For example, students acknowledged the importance of their seminar group in supporting them through university but accepted that a positive dynamic between the group was down to chance. This is explained by one student who suggests:

> We've been lucky really in this tutor group we are in because we all get on and we all kind of have each other's back in a sense when it comes to work and assignments and stuff. So that's really, really nice to have' (Lauren).

In addition, students recognised that when lockdowns were re-introduced, they found that this impacted on opportunities for peer support. They also used different spaces to gain support from their peers. These included platforms such as 'WhatsApp'.

'WhatsApp' was used socially to 'keep up moral between us' (Theo) and it was used to build connection as Theo described how it was a place to 'get together' even during periods of social distancing. This student went on to highlight how 'WhatsApp' became a portal to build connections with their peers even when they couldn't be together physically during periods of social distancing. Theo stated that:

> Yes. And for me and my other group of friends, it was just, you know, should we go on the Xbox? Yeah, should we? Should we have like a little FaceTime? Have a bit of a laugh, you know, get together.

Students that mentioned the use of digital chat groups were largely positive about their use; however, some problems were mentioned with these digital learning communities. One student pointed out that 'even though we have WhatsApp groups, and we're chatting on 'WhatsApp' groups, not everybody talks, not everybody matches their profile picture. So, when we were talking about this yesterday, we were pointing out people, we actually don't even know their names' (Samira). This student mentioned that communication using 'WhatsApp' wasn't the same as in person communication. Another issue identified in relation to using Information Communication Technologies (ICTs) to build learning communities was that these digital chat groups could lead to isolation of students. As one student noted that as they were 'late to starting the course they missed the opportunity of joining the 'WhatsApp' chat which was set up in the induction week joined late and not part of the group' (Pat). This student went to describe their isolation stating that 'I got to know everyone through an awkward Hello, as I came through the door which was, which is fine, but it doesn't mean that I didn't really make initial friends' (Pat).

Theme 3: Isolation and loneliness during the pandemic
Students discussed a significant feeling of loneliness and isolation during the lockdown prior to attending university (i.e., at college or sixth form). This had a negative impact on their wellbeing and motivation to study. This was outlined by the responses from two participants below:

> I just struggled a lot with my mental health in the first couple of weeks of the pandemic. Like I said, I'm a real, I thrive of being with other people and not seeing other people was really hard and my other half works in a prison. So, he was still in work. So, I was in house on my own (Clare).

> I am very much a people person. I like to be around people. So, working from home was a struggle for me. I just struggled a lot with my mental health in the first couple of weeks of the pandemic. Like I said, I'm a real, I thrive of being with other people and not seeing other people was really hard (Tara).

Students recognised the challenges they faced prior to university and coping with lockdown. Another student indicated, 'obviously, being in a lockdown, same with Claire, I love being with people, I love seeing my friends. And you can't, and you couldn't, and it was just, it was really rubbish (Tilly). Students struggled with being

stuck inside with one or two family members and limited social interaction with others. Sarah highlighted 'I didn't really have any interaction with anyone because of locked down. I lived alone with my child, so it was just me and her pretty much for the whole of it'.

During their first six months of study, students received some face-to-face teaching between lockdowns which helped with the feeling of isolation. However, the majority felt that they 'missed out' on important social experiences at university. For many, the feeling of loneliness and isolation returned during the subsequent lockdowns that were introduced throughout the year. Students found that this period of lockdowns impacted upon their ability to develop friendships and their motivation to return to university. This was emphasised in the passage below from a student who summarised their experience during their first year at university:

> But yeah, it was, it was difficult, and it really reflected in my mental health and stuff like that. So I was literally in my room, seven days a week 24 hours sleeping, eating, go out cooking. Because I'm in a flux, you have your room, and then your kitchen right next to you. And then housemates it would be, they would all do the same thing. But the fact that we didn't know for, you know, not comfortable with and you can't even go out and socialise with them... I was in the university accommodation. I am private now. So, it's really hard to make friends. Okay, look, I came with my girlfriend. So, we were in the same, pretty much in the same building block, but not in the same flat. So, it was obviously quite a lot., pretty much, apart from the five people had randomly met, who I got along with some of them, but they weren't like, I wouldn't call them friends (Pat).

Summary of peer engagement focus group findings

This section accentuated the impact of the imposed lockdowns which had far reaching consequences such as the ability to connect with peers and develop relationships as well as the negative impacts of isolation on student's wellbeing. Students shared the gravity of building connections with others which in turn could create a sense of belonging which is a fundamental pillar of the transition to HE. With limited opportunities to connect with other students in person the reliance on technology to build communities was increased.

4.4.3 Student-staff engagement scale: findings

The highest mean scores from the items in the student-staff engagement scale comprised in Table 6 included feeling confident that at least one of the teachers knew the student's name and agreeing that most of the academic staff were approachable. This could indicate that teachers were friendly, and they took an interest in getting to know their students. Being taught by approachable staff could positively impact the development of academic relations between students and teachers. Even so, the weakest mean values suggest that students considered that most academic staff did not take an interest in their progress, and they did not usually receive helpful feedback on their progress.

Table 6 Descriptive statistics of first year student student-staff engagement items

Student–Staff Engagement Scale	mean	standard deviation	variance	count
I feel confident that at least one of my teachers knows my name	4.19	0.74	0.55	88
Most of the academic staff are approachable	3.97	0.78	0.61	88
Staff are usually available to discuss my work	3.92	0.61	0.37	88
One-to-one consultations with teaching staff are useful	3.92	0.83	0.70	88
Staff made it clear from the start what they expect from me	3.89	0.88	0.77	88
The teaching staff are good at explaining things	3.88	0.76	0.57	88
Teaching staff usually give helpful feedback on my progress	3.75	0.79	0.63	88
Most academic staff take an interest in my progress	3.69	0.82	0.68	88

4.4.4 Student-staff engagement: focus group findings

The three themes created for this scale were: The role of staff, creating a student experience and communication.

Theme 1: The role of staff

Prior to university, students indicated that they struggled with the support offered at college or sixth form. One student expressed how 'we got more support in university' (Hanna). They cited COVID-19 as one of the main reasons for the lack of support they received. This was summarised in the comments down below:

> I would say that it's there was lack of support, if I'm honest, because of COVID, there wasn't much support. My tutor, she wasn't the most supportive and she wasn't the best at being, you know, empathetic as such, but to be honest, it, you know they don't actually, they didn't actually get me ready at all because referencing is completely different when he comes university than it is in college. Although we still use the same type of referencing, it would be, they wanted a different format (Sarah).

> I think, I feel this one's been kind of thrown in the deep end, but she did do like Q&A, so you could drop in and ask questions online. She was there live. I was really overwhelmed to begin with this one and I did reach out and I said I'm just feeling overwhelmed, I don't know what I'm doing. I felt like there's not enough like, support (David).

> The first lockdown, I remember being very messy in terms of a teacher was supposed to send you out an email on the day you had a lesson and set you an

hours work, but it never really happened like that. And then I had other teachers, I had one for drama. He would send a piece of work out at the beginning of the week for the week, but half the time it wouldn't even be related to the course (Ellie).

At university, students stated that the role of staff in supporting them through the COVID-19 pandemic has been crucial for their development. Students highlighted the diverse ways in which they were supported through their first year of university. This was particularly evident in the responses from the students below:

Yeah, yeah, definitely. I think there's so many sorts of videos and YouTube videos and the tutors have put together in order for us to learn how to use them. And if we ever got any issues within the lectures, they, they will happily sort of say, okay, we'll sort this out, we'll show us how to do it. So, I feel like we're very well supported (Chloe).

Just give an email to one of the lecturers and they'll be happy to help no matter what, or even if we have, we all have an online session, there'll be happy to show everyone just in case someone has that same problem as well. So yeah, there's always some sort of support, like no matter what day, what time, there's always help out there (Iris).

I know we have one lecturer who she like the loveliest person and we had one-to-one meetings with her and she was talking about our academics but also just about how are you finding the university town like she'll recommend good places to go to eat. So, I think, like, mainly they do offer support academically, but also like, emotionally, I don't think that's the right word. But like, they give you a lot of support, like with the cities. But also, if you're like, if they can tell you're not feeling great or you're a bit zoned out, well, double check that you're feeling OK as well. (Ellie).

In addition, students praised the organisation of lecturers in supporting them through their first year at university. A student stated, 'Mary's (A pseudonym has been used to protect this lecturer's identity) one of our lecturers, she's very organised, and she puts things up there weekly, and it's organised so that we know what we need to do when so it's really helpful' (Hanna).

Students also cited an inconsistency in support between tutors at times (this was evident at college and university). For example, Ellie, stated that: 'It was very dependent on the teacher, like some of them were incredible'. Furthermore, students highlighted that some tutors engaged with them frequently, whereas others were not interested in engaging with students or were not good at utilising technology to engage with them. One student indicated:

There were three tutors in total. One of them was very, very, very supportive. She was amazing. She would phone you. She would, you know, she would keep in

constant contact. I still speak to her today. But the other two, I mean we're very lacking. One of them was completely terrible at technology, couldn't really use a laptop or anything. So, I couldn't really engage with her at all. And the other one was more so that she didn't want to be bothered. She only worked three days a week, so even lesser within the three days. She didn't want to know (Sarah).

Some of the focus group findings contrasted with the questionnaire findings which highlighted that students felt that they didn't receive helpful feedback or that staff didn't take interest in their progress. The focus group enabled participants to offer more detailed accounts of the support they received at university. Pat noted that the ability to gain feedback and develop relationships with lecturers was difficult online:

> We didn't have that face-to-face personal interaction, where your lecturer saw your face was confused, they could go over and help you, they could see that you were actually distressed or whatever, but over Teams, you can just say 'Yeah, I'm fine', and then it didn't really matter. Most of time it was, speaking at you, giving you instructions, giving you information and you just write it down, and then gives me to it.

As the interactions with university staff were online, they were perceived by some students as interpersonal and uninterested.

Finally, support also ranged across universities; a student described how they had started a course in one university but transferred as they found it exceedingly difficult. This student noted a difference in support offered by their current university stating 'that I was quite, quite shocked actually, how was supportive this university was' (Stephen). Findings suggest that the range in support offered by institutions may have been influenced by their staff's ability to provide this support many of whom were enduring their own personal challenges during the pandemic. This was acknowledged by one of the participants who noted that 'even some of the lecturers struggled with the transition (of working during the pandemic)' (Pat).

Theme 2: Creating a Student Experience
Several students discussed the importance of trying to create a traditional student experience during the COVID-19 pandemic. Most of those students highlighted a link between face-to-face sessions and the positive impact this had on the student experience. For example, a participant stated:

> You know, just having that human interaction being able to speak to your lecturer. And then once you finish whilst it's all in your head, go off to the library and still be in that setting to do the work. But then you know, if you're still, If you're still unsure, you know you have got like loads of resources readily available to you which I think I would prefer, obviously, with Corona, and they can't do that (Tilly).

I was definitely looking into like I wanted to make sure I had the support when I was there. Because I knew it's going to be a difficult time transitioning during COVID but also I shall go with my mental health anyway so that was a priority for me but I think that was definitely something they [the university] promoted (Keighley).

Students noted that face-to-face sessions, supplemented with time on campus meant they were able to 'get in the zone,' which in turn aided their motivation and concentration. For students, 'time' on campus represented a positive student experience, whereas 'time' at home did not. Students also discussed the concept of 'losing out' on a traditional student experience because of the COVID-19 pandemic. This meant that students felt like they were always 'catching up' for the time lost during the pandemic. This was outlined by a student who suggested:

Because, you know, it's going to be a less standard of teaching, you know, it's going to be a less standard of social interaction. You're not going to say university experience, you're paying 14 grand or 15 grand for some, just to sit in your room for 365 days. Which, which I did. It didn't feel like university. Well, the university experience that was backed by everyone. It was this great social event, great for learning great for. Like, yeah, meeting your lecturers and doing really interesting fun activities where you can actually really get involved (Pat).

Finally, students alluded to the importance of grasping every opportunity that they were given (to make up for lost time). This included teaching, learning and social opportunities that they were afforded during their first six months of study.

Theme 3: Communication
Students noted that communication was important during the COVID-19 pandemic. This was especially relevant to their first six months of study at university. They discussed communication with students but also staff. They indicated that methods of communication adapted and changed because of the COVID-19 pandemic. For example, students communicated 'using social media and chat apps ('WhatsApp') to more often to discuss work and as a means of communicating with others' (Pat).

Students cited the significance of course reps in developing effective communication channels between students and staff.

But yeah, and then I mentioned, [student's name], who's. He is our student rep is really good at responding to any queries that we have, we have a 'WhatsApp' group, as a class, he's really good at responding to any queries, keeping up with information, and relaying the information to the lectures as well. So, he is a, he's a big help in terms of outside of lecturers, helping with stuff like that (Pat).

When we did the group presentation, we created a 'WhatsApp' group, so that's got quite a few of us in it. And I know there is like at the start of the year, there's

lots of big groups being made with all the people from your course on it (Keighley).

In relation to communication with staff, students commented that staff replied promptly to emails and always felt like there was somebody to contact. Three participants noted that:

An email with Cardiff met outlook is most- quickest way they always try their best try and get back to us as quick as possible. And always give us help and even more. So, they are very helpful (Iris).

So you can email them and sometimes it depends on the lecturer. Some lecturers prefer to email back, some will say, oh, if you're struggling, come and meet me on campus at this time and we can go through it. Some are organising a team meeting but generally if you don't know what to do you just email etc and then you go from there (Ellie).

I think for me, I value like a one-to-one support where I can if I got a question, I always love to ask it. Which sometimes isn't so easy, because we've got like, we got we got quite a big class. But if I need help, I will always go to email the tutors, and they do get back quite quick (Theo).

Equally, they reported that tutors adapted well to communicating in diverse ways with students. This included utilising 'YouTube' videos and other types of social media, including 'Twitter'. One student commented:

He actually put up 'YouTube' videos. Because I, basically, what I watched them all, just because I'm a giant nerd. But he was just he put he put up 'YouTube' videos just saying like how to, like use 'Moodle' on our course. So, I literally showed our modules on the 'Moodle'. and which ones to start, which ones that were important, which ones we'd be doing first (Clare).

Summary of staff-student engagement focus group findings
Although the support offered to students during the pandemic ranged across institutions in further and higher education this did play an influential role to student engagement. Some staff were described as playing a crucial role in the development of first year students as they were on hand even during bouts of lockdown as they offered comprehensive academic and emotional support by using a variety of multimedia to communicate with students. Also, despite limited opportunities to interact in a face-to-face capacity staff tried to retain a positive student experience and reduce student's feeling of 'losing out' by learning online. Inconsistencies of support from staff were reported by students who complained about a range of issues; however, universities were deemed to provide more support than colleges or sixth forms.

4.5 First year students' digital preparedness and engagement

This section presents the research findings in relation to first year students' digital preparedness for, and engagement at, university. It draws on survey and focus group data to answer the third research question: How digitally prepared and engaged were first-year Education students during the COVID-19 pandemic?

4.5.1 Online engagement: survey findings

Items from the Online engagement scale that acquired the highest mean values were related to Web use for study purposes and agreeing that contacting the teachers via email was useful, see Table 7. In the digital age, having access to internet and using the Web for study purposes played a significant role in the academic life of the student hence, this result was expected. The high score for the second item reinforces the fact that students preferred to contact their teachers via email. It was noted that using email on a regular basis to contact the friends from the course and considering the subjects offered online without face-to-face classes useful obtained the lowest mean values. These findings were anticipated since students were inclined to contact and stay connected with their peers using group chats created on social media platforms such as 'WhatsApp'. Furthermore, they preferred learning in an environment where they could engage with their peers and teachers. This became clearer when presenting the data gathered via the focus groups (see Theme 2 in section 4.5.2).

Table 7 Descriptive statistics of first year student online engagement items

Online engagement scale	mean	standard deviation	variance	count
I regularly use the web for study purposes	4.15	0.82	0.68	88
Using email to contact lecturers/tutors is very useful	4.12	0.70	0.50	89
I regularly use email to contact lecturers/tutors	4.01	0.85	0.72	88
Online resources (e.g., course notes and resources) are very useful for me	4.01	0.91	0.83	89
I regularly use web-based resources designed specifically for the course	3.83	0.81	0.66	87
Learning at my own pace using online resources is useful	3.77	0.94	0.89	88
Using email and/or other platforms to contact other students is very useful	3.71	0.87	0.76	89
Computer software designed specifically for the course is very useful to me	3.65	0.93	0.87	89
Online tutoring (electronic access to tutoring support) is very useful	3.48	1.00	1.00	89
Online discussion with my peers is very useful	3.42	1.06	1.12	88
I regularly use online discussion groups related to my study	3.20	1.12	1.25	89
Subjects offered online with no face-to-face classes are useful	2.98	1.32	1.75	89

Digital preparedness

More students felt digitally prepared for university than not, with 61% of the respondents rating themselves as digitally 'very prepared' (13%) or 'prepared' (48%). Only 1% of the students rated themselves as 'very unprepared' to describe their digital preparation for university. However, not all students who took part in the questionnaire considered themselves to be digitally literate and explicitly mentioned their requirement for 'more help with technology'. Those that did not feel digitally literate or were lacking in digital confidence did note the support that was offered by their universities. For example, one student recognised the support offered in relation to the VLE they were using 'I thought the university done really well in introducing 'Moodle' etc. to us'. This was echoed by another student who mentioned in response where the university could provide further digital support, 'nothing to suggest as the university offered a lot in this area'. Some of the forms of support offered by universities were detailed in the questionnaire as a student noted that 'videos (were) provided to ensure understanding' for digital aspects of the course.

The additional support for improving digital preparedness mentioned by students included guidance on basic digital packages such as 'PowerPoint'. For example, one student noted that 'not being ageist at all but some of us over a certain age...more of

how to use the computer in all its glory, how to do 'PowerPoint', all the modern things really.' Better communication from universities about the digital support that was available to students was also mentioned as a student stated that 'being aware of more of the options that were available'.

Online engagement
Engagement with online learning was considered as an essential element of their studies within the questionnaire data, with 42% of students agreeing that they used the web for study purposes. Results suggested that digital tools were used by students as online resources such as course notes were described as 'very useful' by 46% of students and 31% strongly agreeing that they used online resources. Another potential benefit associated with online learning was the ability to use online resources to learn at a student's own pace, 53% agreed and 18% strongly agreed this was useful. A further 46% of students described online tutoring as 'very useful' however, online teaching was not described as favorably.

The results showed that 26% of students disagreed and 16% strongly disagreed when asked if subjects offered online with no face-to-face classes were useful. Several students explicitly described their preference for face-to-face teaching and some of the challenges associated with online learning. For example, a student noted that 'I wish we had more time on campus'. Another student commented that 'I struggle to concentrate in online sessions'. Surface level learning was suggested by one student who requested 'more in-depth lessons' although it was not clearly stated if this was referring to online or in person teaching. Recommendations for sessions 'being more interactive' were also made. Several students described a didactic approach to teaching online as one student noted 'there seems to be an awful lot of 'PowerPoint' presentation'. This was echoed by another student who claimed, 'not to be all reading 'PowerPoints'...it all feels distant somehow'. Teachers were also criticised within the results as two students indicated that their teacher's confidence with technology needed development to improve student's digital learning experiences. Teachers were also criticised for being 'aloof' by one student and it was felt by another student that their digital and learning experiences would have been improved if teachers were 'actually interested'.

The questionnaire data helped to illustrate how students engaged with digital technology to communicate at university. Results demonstrated that email was the most usual form of communication to contact university staff with 43% of students noting that they 'agree' that they used email to regularly contact lecturers / tutors. Also 59% of students considered using email to contact lecturers / tutors 'useful'. This contrasted with the use of email to contact their friends on the course as 25% of students 'strongly disagree' and 26% 'disagree' when asked if they used email to contact friends on the course. Although online discussion with peers was considered useful by 36% of students, the way in which they communicated with their friends may be different to lecturing staff. When students were asked if they engaged with online platforms to communicate with their peers, 52% of students noted that using email

and/or other platforms to contact other students was 'very useful'. These 'other platforms' were not explicitly mentioned by any of the students in the questionnaire, but these may be a preferred platform to email communication with peers. The results were also mixed when students were asked about other forms of communication such as online discussion groups. Engagement ranged with online discussion groups, when asked if they engaged with online discussion groups, 14% stated that they 'disagree', 29% were neutral in their response and 36% 'agree' with this statement.

Digital access
Most students reported that they had access to digital resources required for study such as a phone and/ or a laptop, with 96% of students noting they had a laptop and 97% stating that they owned a mobile phone. Access to other digital resources was varied as 59% of students mentioned that they did not own a tablet along with 54% of the sample noting that they did not own a printer. Access to Wi-Fi connectivity ranged prior to starting university and during university study. When describing their internet connection; 39% of the students used the term 'good', and 26% described their connection as 'excellent'. Interestingly this description of Wi-Fi connectivity did reduce when students were asked about their connection during their university studies with 29% of students describing their internet connection as 'good' and only 19% describing this as 'excellent'. Results also saw an increase in students rating their Wi-Fi as 'weak' (11%) during their university studies, as opposed to 4% of students who described their Wi-Fi connection as 'weak' prior to starting university.

4.5.2 Online engagement: focus group findings

Online learning has played an even more critical role in learning since the Krause and Coates (2008) study which has altered the way first-year students have engaged online. During the pandemic learning has shifted rapidly and exclusively to the online space with students having to adapt accordingly. The focus group data illustrated the wide range of competence and confidence with using technology amongst the student sample. It also highlighted the importance of access to digital resources, skills and connectivity to broadband during this time. The three themes for this scale are digital literacy, digital support, and digital access.

Theme 1: Digital literacy
Due to online teaching in schools and colleges during the pandemic, most of the students in this study had some opportunities pre-university to develop their digital literacy. Students described the necessity of having to adapt quickly to digital platforms to continue their studies with the initial lockdowns during their sixth form, college experiences. A student summarised the immediate shift to online learning by stating:

> It was basically COVID hit so, we were all online for it. So, all our sessions were online, our work was done online, everything was online, we didn't go onto campus apart from, I think, the last two weeks of the school year. And even then, it was very restricted, you couldn't do the normal things (Jamie).

Students shared a common experience of having to learn how to use remote communication platforms such as 'Zoom', 'Teams' and 'Facetime'. One student commented 'we had to learn how to use these platforms quickly' (Stephen), another student relayed the importance of these digital platforms for learning as they 'forgot to download (Microsoft) Teams and I couldn't join any lessons' (Olly). Another student described the immediate shift as a 'jump from paper to digital' (Tilly) during this time.

The focus group findings suggested that an important factor of the transition to learning predominantly online was the student's confidence with using technology and digital resources. The sample was made up of students who had come to university from a diverse range of settings. Some students had worked as teaching assistants in schools and described how they had learnt to use 'Google Classroom' before coming to university (Lauren and Stephen). Two mature students described how they 'were out of touch with using technology as they hadn't needed to use it' in their professions (Clare and David).

Several students explicitly mentioned their confidence with using technology which helped them to 'get stuck in' (Stephen) with using new technologies required for learning. These students expressed their lack of fear of trying new platforms and learning how to use them. One student shared how 'it wasn't a problem for me, I am really good and confident with using technology' (Iris). Another student described how they were digitally prepared for university as they were able to use pre-existing digital literacy skills 'we were prepared, because we were using 'Apple' all the time and I kind of brought that with me into uni this year' (Theo). Lauren also stated how they felt confident with the use of their mobile as they had used this extensively before starting university. Confidence with mobile devices was common across the sample, an example of this could be seen as one student stated that 'I use my phone all the time, more than laptop or anything' (Tim). Confidence helped with adapting quickly to engaging with new technologies, Chloe revealed that 'I have never really used 'Zoom' or 'Teams' of anything like that, so I had to adapt quickly, I am fine now'.

Several students outlined their confidence with using mobile technologies, but their digital competence ranged in ability. One student mentioned that 'yeah, so on phone, I can do stuff on social media, but on computers, I am completely useless. I haven't got a clue' (Tilly). Another student explained that they were 'confident with using most applications but needed support with things like Excel and Moodle'. Confidence with using devices larger than a phone were described as quite alien to some students who claimed for example 'a lot of it (work in secondary school) was handwritten, unless you had coursework, so I didn't really use my laptop, ever. I had to learn how to use it for college and then uni' (Tilly). A common struggle mentioned by students was learning to use remote communication platforms such as 'Zoom' or 'Teams'. One student when talking about using Teams stated that they 'clicked the link and hoped for the best' (Tilly).

Another frequently described 'challenge' was using the institutions' Virtual Learning Environment (VLE), due to a lack of experience in using them. Keighley noted that 'the primary digital learning platform here (in university) is Blackboard, which I think can be confusing in itself'. Another student stated in reference to using a different VLE, 'Moodle', that 'I just didn't have a clue' (Chloe). This negative experience of using platforms such as 'Moodle' wasn't expressed by all students, for example Samira indicated that 'the transition with regards to technology, it was really simple, and I found 'Moodle' pretty simple to navigate once I got onto it'.

Theme 2: Digital support

Those that were not as digitally literate or competent did go on to describe the digital support offered by the university which assisted their digital engagement, for example one student explained how 'short videos prepared by the course have helped' (David) with their digital confidence and developing their digital literacy. Descriptions of video guidance recorded by lecturing staff to support digital literacy were common across groups and identified as best practice; these videos were then made available via course 'YouTube' channels which were 'easy to engage with' (Clare). Another student stated how 'the university did provide digital guidance to use Teams, Moodle etc.' (Lauren). Even though additional support was offered by the university 'not everyone was aware of the 'YouTube' channel' (Clare), therefore the resources were made but not utilised by all students. This contrasted with descriptions of digital support offered by several students who studied in colleges before starting university where there was 'little to no digital support' (Sarah). Another student when recounting their digital experience in college stated that 'we were left to get on with it' (Hanna).

Due to the necessity of using technology to access learning, two students described how their digital literacy had benefitted from this period and how their digital literacy had improved. One of these students revealed how they were 'much better at using tech now' (Chloe). This was not felt by all students as one student explained 'I'm still not very confident with that kind of stuff. But I think, luckily, the people I get on with at uni are quite good with tech that help me' (David). Peers were a utilised resource that was commonly used to help when there was a technological query or issue. Iris reinforced this by mentioning that if they had a question related to the technology they would 'always ask a friend'. This student went on to say that 'there's always some sort of support, like no matter what day, what time, there's always help out there' (David).

Lecturing staff were also characterised as a resource to help to support and develop students' digital literacy. One student indicated that if they had a question for their lecturers 'they're always there at the end of an email' (Chloe). This was acknowledged by another student in this group who noted 'give an email to one of the lecturers and they'll be happy to help no matter what' (Iris). Email was described as the preferred method of communication to contact lecturing staff. A student when asked how they contacted their lecturer they stated that 'Email. Email for everything. There's no other form really of contacting we use with any of the tutors other than email' (Sarah). With

limited forms of communication with lecturers some students did outline their frustrations and noted that staff could be slow to respond or ignore emails all together. An example of this was made by Tilly who mentioned:

> I know, this is probably hard, because they have a very difficult thing, but maybe replying to emails a bit quickly, or trying to be more cautious of email, or trying a bit quicker, especially, you know, when you're asking for help, because I know I've sent an email out, and I haven't even had a response.

Another student explained how email was not a form of communication that they liked stating 'I don't really find myself asking, like, email everyone, I just don't' (Tim). This student described the process they adopted when seeking support which involved messaging friends or asking the tutor at the end of a face-to-face seminar.

An interesting finding from the focus group data that related to findings shared by Krause and Coates (2008) was how digital chat groups were used by students to establish support networks and communities for learning. A technology platform frequently mentioned by the student sample was the chat platform 'WhatsApp'. One student noted how WhatsApp was used by their university seminar group stating that 'if you had a problem, you could ask the group and just get an immediate response' (Stephen). This was also echoed by Iris who indicated that 'We all need like WhatsApp group chat, group chats, and we can all interact with each other and always help each other whenever we need any help or had any questions'. Digital forums also provided a digital community in which guidance and support could be offered by university staff. A student described how the forum was used on their university course 'if we have questions put on it, it might be that someone else has the same question and instead of him (the lecturer) having five emails all about the same thing just answer there' (Davis). Forums and discussion boards were considered as a better means of communicating with more than one recipient as opposed to email and its singular nature of communication in which no one else could benefit from the response.

Theme 2: Engagement with online learning
Even though the original Online Engagement Scale (Krause and Coates, 2008) encompassed engagement with online learning, the elements that made up this scale have evolved and changed due to COVID-19. The time students spent on online learning has dramatically increased due to public health restrictions and social distancing. Results from the focus groups provided in-depth descriptions of student's engagement with online learning which suggested that although engagement with online learning was beneficial, there were several challenges that impacted students' engagement with online learning.

Students recalled that time spent online for learning was significantly increased during the past two years 'some days we were online all day with no breaks for college' (Hanna). Students did acknowledge the importance of online learning to education as one student stated:

I think online learning anyway in this century, in this generation is becoming much more important the information age, and what it is needed for schools and students to be able to learn and use computers to their fullest ability (Pat).

The increased shift to online learning has impacted students' engagement, focus and well-being. Several students from the sample described a dislike of online learning for reasons such as the excessive screen time, a lack of motivation and focus and a sense of isolation. Several students were vocal about their dislike of online teaching, for example Stephen stated that 'I hate online sessions, what a waste of time'. These feelings were mirrored by other students who noted that 'I find the online lectures a bit pointless' (Tilly). Feelings of lacking motivation, focus and human interaction were all discussed as challenges for engaging with online learning as shared below.

Students commonly described a lack of motivation for online learning, as one student shared that 'you have got to find the motivation to go online and do them and sit through them. And they can take a lot longer' (Theo). Another student stated how 'it was easy to sleep through online lessons' (Olly). This student went on to explain how online sessions were 'a place for me to switch off and relax, you just can't do that for in person' (Olly). The description of low motivation was continued by Stephen who noted that online learning was 'so unmotivating it feels like the lecturers just talk at you for hours with little breaks.'

Another student echoed this lack of motivation for online learning acknowledging that 'It's hard. You don't feel the need because it's online so, you've got to, you've got to find the motivation to go online, and do them and sit through them' (Tim).
Focus within online lessons was also described differently to face-to-face sessions, for example Sarah shared that 'you don't need to concentrate you can just scroll social media as they (the lecturers) aren't looking directly at you as your camera is off'. This student went on to mention that 'I feel like online, it's so easy. I won't lie, I have done it, you know, what can you come after it has started or just tidy whilst he (the lecturer) speaks' (Tilly). Further descriptions were made of a split focus between the online seminar and 'playing on an Xbox' (Olly).

Some students who usually engaged with online sessions revealed how being at home meant that there were 'other distractions' (Olly). This was also felt by Keighley who mentioned that 'like I just kind of turned off. I didn't understand what was going on, it was what I just didn't understand it at all, and I got distracted more easily' when they joined learning online at home. Other students described the challenge of retaining focus for a whole day spent online, for example Hanna highlighted how 'it was exhausting staring at a screen all day'. Students in the fifth focus group discussed how difficult it was to concentrate and take in information shared in online learning sessions as there were limited breaks and they had to interpret information on their own. Also, the admin associated with accessing online sessions also impacted on a student's focus. One student noted how 'There was an issue with 'Zoom' as you could only call for 30 mins and it would drop out if you didn't pay, you then had to deal with finding a

new link' (Sarah). This was also echoed by Ellie who described that 'because of technical issues and trying to do things online is always just harder than being in person'.

One of the primary criticisms of online learning outlined by students was the limited interactivity. Students commented on the sparse interactivity demonstrated during online lessons 'you just have to sit there and listen to a lecturer talk at you' (Stephen). Another student echoed this lack of interaction as they described an online learning session 'it would be 20 to 30 minutes of the lecturer either asking questions to no one, because no one would answer or the lecturer that just might be muted, something going technically wrong' (Pat). Interestingly, one student mentioned that because one of their college lecturers was not digitally literate themselves this created a barrier to the student's engagement with the lecturers' sessions, 'one of them (college lecturer) was completely terrible at technology, she couldn't really use a laptop or anything. So, I couldn't really engage with her at all' (Sarah).

Students explicitly shared the difference in interactivity between online and face-to-face learning, Theo stated that 'when it's online, you don't really get that same presence'. One student mentioned that 'on campus there is more interaction, we get ideas from others with online it isn't the same, we get distracted' (Jamie). The lack of social interaction during online learning was also outlined by Pat who stated:

> I am missing social interaction with online sessions. I like social interaction. I like picking up on social cues. I don't thrive in a space where I can't see people, I guess. It's uh, it's just, it just feels odd to me.

Students described the common behaviour adopted during online sessions that attendees to the online sessions would turn their cameras and microphones off, so it was usually just the lecturer addressing a quiet online class. Stephen revealed how 'no students talk, no one has their cameras on' during online sessions. Another participant from a different institution noted described online learning as 'really awkward' because 'nobody ever wanted to put their mic on or the cam on. So, most people just sat there in silence and used the chat function instead' (Ellie). Hanna noted that this enabled students to be 'able to hide with no camera, you could switch off, I wasn't engaged'. This student went on to say that 'we don't have the confidence behind a screen that we do in person'.

Interestingly, two students did note an improvement in engagement to online sessions when cameras were switched on, Jamie noted that having cameras on during online sessions helped with engagement 'we had to turn them on for college, we don't here (in university) I think the lecturers should make everyone'. Another student indicated that 'I had an odd experience it sounds, as all my group had cameras on, and we were all engaged' (Olly) in reference to the online sessions they experienced in sixth form.

The limited interactivity was also expressed with lecturers as well as peers within online learning episodes. Students across the sample outlined their lack of confidence to ask questions to their lecturers during online learning seminars as opposed to physically taught sessions. An example of this was suggested by a student who described the interaction between themselves and their lecturer during online seminars:

> Over 'Teams' […] most of the time it was, speaking at you, giving you instructions, giving you information and you just write it down (Pat).

Students lacking confidence in asking their lecturers questions during online seminars was also stressed by another student who explained how their mindset was different when learning in physical spaces because as soon as they switched off the computer they would go 'back to bed' (Tilly). The lack of interactivity with peers and teaching staff was expressed by a student who mentioned that 'what am I paying £9,000 for if there isn't much in person learning' (Stephen). This frustration was felt by other students who urged the university to increase face-to-face teaching and reduce the number of hours taught online. This short extract captures these feelings about online learning:

> Sarah: No online learning.
>
> Lauren: I think if they can, as soon as you can, get students face to face.
>
> Stephen: Face-to-face, definitely face-to-face.
>
> Sarah: A million percent!

Although findings would suggest student's experiences with engaging with online learning were negative, several students did note some of the benefits of engaging with online learning. These findings were similar to results shared by Krause and Coates (2008) who noted how ICT promoted independent learning. Several students from the focus groups explained how they enjoyed the recorded lectures which encouraged a flexible approach to learning which suited their lifestyles. A student stated that 'when you've got family life and work life, you know, having to balance lots of campus meetings, you know, it's quite flexible' (Chloe).

The hybrid approach to learning suited these students who revealed that they had to work full time jobs to afford to attend university. Students described how they could engage with the recorded lecture content around their employment and childcare responsibilities. Students explained how they utilised the affordances of the technology for example they 'listened to lectures at faster speeds' (Clare) and 'rewind content to go over things' that needed further clarification. Students also mentioned how they could listen to the content at times that suited them as opposed to times set by the university. A student noted that 'I like the fact that the recorded lectures are there because we can go to them when we have time to do it' (Jamie).

Theme 3: Digital access

Digital access was emerged as a key theme within the focus group data. Digital access was not included in the Kraus and Coates (2008) Online engagement scale, but it was explored in depth below as Digital access was an important and influential element of student's ability to engage with online learning.

Several students put emphasis on how they had to buy or replace digital resources, one student noted that 'I had to get rid of my monster of a laptop as it couldn't hold a 'Teams' call' (Chloe). The shift to predominantly online delivery meant that students were required to acquire technology to engage with this delivery.

Accessibility to digital resources was not universal as one student noted 'people didn't have the right equipment to do what they needed to do online' (Pat) and this focus group (focus group three) noted that if students did not have the correct equipment they were expected to replace or buy new resources. Students shared how they previously had owned ICT equipment, but a lot of their digital resources needed to be replaced to meet the demands of the course; for example, Jamie mentioned that 'I had to get a laptop. I had one previously, but it was temperamental. So, I had to get a new one for the course last year, and then subsequently for the new for the course this year as well, really'. Two other students described how they had to replace laptops as their equipment couldn't hold a call with more than twenty people on it (David). Another student mentioned that 'my laptop was about four or five years old, which working on documents was fine but when I was on Teams, it was freezing all the time. And I was really struggling, so I had to upgrade to a new model for that' (Samira). Other students emphasized the necessity to buy new equipment 'to be able to succeed at university' (Sarah). New equipment was acquired through student loans or from gifts from parents, Sarah explicitly outlined 'if it wasn't for my student loan, I wouldn't have a laptop. I had to buy a crappy Chromebook which didn't do anything I wanted it to for college'. Tim explained how they managed to 'get an old laptop from my stepdad'. Accessibility to digital resources seemed to improve as some colleges and universities loaned equipment to students who needed it. A student stated how 'we were given an iPad by school' (Iris) and another student noted how 'digital equipment can be loaned from the university now' (David).

Accessibility to digital resources ranged across the sample. Even those students whose households owned several digital resources struggled as whole families were working from home during imposed lockdowns and had to share devices for work or study simultaneously. An example of this was described by Iris who stated that 'I had to sometimes wait for siblings to finish using laptops'. Another student expressed how she 'wanted to kill her sister half the time' (Tilly) as they struggled to share digital resources.

Digital accessibility challenges were not only restricted to digital resources but also to accessing broadband connectivity. Issues relating to broadband connectivity emerged

as students discussed how the whole family were trying to access broadband at the same time during periods of lockdown as families attempted to work and study at home. One student mentioned that 'we struggled to get reliable Wi-Fi at home with my brother doing homeschooling' (Iris). Another student outlined their frustration with accessing the internet at home 'working at home, we had multiple issues with Wi-Fi because I think it was a time when everyone was on the servers at home' (Lauren). Two students mentioned how access to broadband was an added stress with Wi-Fi crashing, calls failing and not being able to connect to calls at times (Hanna and Lauren). Access to broadband connectivity was also mentioned as a challenge not only at home but also in university accommodation. One student described the Wi-Fi connection 'on campus is dodgy' (Tim). This information highlighted the importance of digital access during this period. The ability to access and engage with online course content depended on a student's access to digital resources and their bandwidth stability.

Summary of online engagement focus group findings
The pandemic brought online learning to the fore front which increased the requirement of students to be able to access relevant digital technology and a secure broadband connection, as well as possessing sufficient digital skills to be able to navigate course content and university sessions led online. Although support was offered by universities to support these issues, even with a stable Wi-Fi connection on a reliable device online engagement was associated with negative feelings and a lack of motivation, void of interaction and detrimental in some cases to students' mental health and well-being.

4.6 First year students' transitions recommendations

This section presents the research findings in relation to first year students' recommendations for how they can be more prepared for and supported during the transition to university. It draws on open-ended survey responses and focus group data to answer the fourth research question: What opportunities and interventions can be implemented in university to mitigate the negative effects of the COVID-19 pandemic on teaching and learning?

4.6.1 Academic recommendations from the survey
The survey asked what further support students required to academically prepare them for university. Students recognised that it was the university, lecturers and support staff who could most effectively support them in the induction and transition to university, therefore support should be provided from the point at which they accept a place, not the first day of the programme. Some students recognised that universities could not plan for every issue or eventuality which occurs during induction and transition. Consequently, they would ask university staff to confirm that all students have the necessary academic competences to effectively access learning resources, library services and further support either in-person or online. Students mentioned that developing their academic writing and note taking skills was essential, this relates to

the value and importance students place on formal university assignments and that they want to attain good grades from the beginning of the programme. To enable this, a couple of students suggested a practice run of an assignment would be a useful summer task ahead of starting university, especially if the outcome was not formally recorded. They also suggested that learning how to reference and how to write for different audiences would further develop their understanding of university norms and expectations.

Concerning intellectual engagement, students mentioned a desire to improve their time management and self-learning skills, this would develop their affective and cognitive skills and ensure their agency in the university environment. Students also discussed how their academic transition to university could be made easier if the university curriculum and provision of information such as programme details, reading lists and timetables were published at the beginning of the year. This would help students with their organisation, so that work and caring responsibilities could be planned for ahead of time rather than the current situation where they feel that they are juggling competing commitments when timetables change.

With regards to academic support, students responded that they would benefit from more meetings with their personal tutors and informal opportunities to meet lecturers for example an office hour or blocked time in the week when they knew they could ask for and receive support. Some students commented that their assignment feedback identified minor errors and omissions as an area of improvement, and they thought that a university proof-reading service would be useful. On university services, some students requested improvements to services that provide emotional, physical and mental health support, they also indicated that advice on how to manage their finances would help their transition to independence. Students stated that they would benefit from an extended Induction week, more opportunities to meet other students and participate in academic group or tutor group activities to get further acquainted with the students enrolled on their programme.

4.6.2 Social recommendations from the survey

The survey asked what further support students required to socially prepare them for university. Students discussed the significance of meeting peers prior to university. They suggested that social media could be used to create a platform for students to engage with one another prior to university. Students highlighted the importance of group chats in developing friendships but acknowledged that they would like to develop these friendships earlier to aid the transition to university. They also suggested that they would like more social events during the first few weeks at university. However, they did acknowledge that this particularly difficult due to the government restrictions because of COVID-19.

Students discussed the importance of meeting peers from outside their immediate seminar group. They would like more opportunities to socialise with peers on their

programme. This could be as part of a teaching session on campus but also as an informal, mingle event, off campus.

4.6.3 Digital recommendations from the survey

Recommendations made within the survey in relation to online engagement proposed further digital support with the university VLE and basics of software packages students would be expected to engage with during their university studies (e.g., 'PowerPoint', 'Teams', 'Google classroom'). Students did acknowledge the digital support offered by the university but further information on where this guidance would be accessed was recommended. Requests for more face-to-face teaching led on campus was explicitly mentioned as challenges with online learning were particularly discussed. Finally, development of teacher's confidence with technology was recommended to improve students experience with online learning and teaching, which in turn may develop the interactivity within online sessions and to move away from didactic approaches to delivery using 'PowerPoint'.

5 Discussion

5.1 Academic and intellectual engagement

Research findings from this study highlight that students making the transition to university have been impacted by the COVID-19 pandemic due to the physical closure of schools, colleges and universities and social distancing measures over the last two years. The impact on all educational institutions has been far reaching, and students have ultimately experienced fewer pre-university academic activities, educational visits, extra-curricular opportunities and outside visitors compared to pre-COVID-19 cohorts. Even though disruption has affected every facet of education; our findings suggest that three quarters of students in the study still felt academically prepared for the transition to university. Being well supported during induction and transition to university can help students adjust to their new educational setting, engage with their learning, connect with fellow students and ultimately be successful (Mahon et al., 2017; Scanlon et al., 2007). Findings from this study suggested that all students experienced an initial transition shock, the magnitude of which varied due to prior experience and competences, but once able to navigate the campus and VLE, students were able to engage in their studies in both physical and digital spaces.

Dealing with the complexity of the university transition has been particularly challenging for students, more so during the pandemic. This chimes with work by Gill (2021) who reported that students felt particularly anxious about the transition period due to the simultaneous educational, ecological and developmental changes that take place. In this study, students expressed feeling particularly anxious prior to the start of their degree programmes as they felt they should be doing something, but they were less sure what that something should be.

Our findings shine a light on the diversity of students and their pre-university experiences and we concur with Kyne and Thompson (2020) who conclude that there is no single strategy to support the transition to university. Students in this study suggested a range of strategies to support their transition to university and a key piece of advice was that support should be provided by schools, colleges and universities before the transition, and that university services and staff should continue to offer transition support for the entire first year as different students will need to draw on support at different times. Aligned with Gale and Parker's (2012) typology of student transition: as induction, development and becoming; students in this study recognise that the transition to university is typically a much longer period than is currently conceptualised, likely due to the time it takes for students to develop a sense of belonging and feel recognised as a full member of the university.

The significant shift in pedagogical practices students experience as they transition from school to university were exaggerated as teachers' normal pedagogical practices were disrupted by remote teaching, 'behind the line' instruction and the pressure of 'lost learning' during the pandemic (UNESCO, 2021). In pre-pandemic times, schools and universities worked hard to build bridges (Briggs et al., 2012), reduce the skills

gap (Tate and Swords, 2013) and improve student preparedness for higher education (Kraus and Coates, 2008). Findings from this study indicate that students want a successful transition, and that they consider onsite not remote learning to be the most effective approach. This preference for in-person learning experiences is increasingly being reported in the literature for studies conducted during the pandemic (Aristovnik et al., 2020; Kyne and Thompson, 2020; Lederer et al., 2020). Given the disruption and narrowing of pedagogical practices over the last two years, students will have missed opportunities for groupwork, fieldwork, debates and other educational experiences. Therefore, it is important that innovative pedagogical practices and experiential learning opportunities are prioritised as plans for the next few academic years are created.

With university campuses returning to life in the 2021-2022 academic year, students in this study saw the time after in-person lectures and seminars as a key opportunity to go to the library, meet other students for a coffee and generally prolong their time in formal and informal campus learning spaces. Encouraging this type of engagement with educational spaces is hugely beneficial for student learning (Illeris, 2007), but also for motivation, social interaction and wellbeing (McKay et al., 2021; Sanagavarapu and Abraham, 2020). Encouraging students to be back on campus, in the traditional site of learning, and to spend extended periods of their time learning on campus requires institutional and programme level support and should be a priority as students reacclimatise to academic work taking place onsite rather than online (Pownall et al., 2021).

There is no getting away from the fact that the COVID-19 pandemic has irreversibly changed the way we work and study. Notably absent from the pre-pandemic literature on student engagement is an attention to how students value, use and organise their time at university, yet these were key strands of discussion for focus group participants. The model of hybrid learning adopted by universities with a mix of asynchronous and synchronous sessions gave students the opportunity to study full-time in a condensed number of days, freeing up whole days for paid work. This time efficiency is incredibly supportive of non-traditional and mature students who can fit study around work and family commitments. It also influences student expectations and their approach to their studies, for example having high expectations for teaching quality and the option to watch on-demand resources at high speed to make the most use of days allocated to their studies.

5.2 Peer and student-staff engagement

Findings from this study indicate that students' ability to develop socially has been significantly hindered by the COVID-19 pandemic. Students have seen a reduction in face-face teaching, been isolated from others and had to adjust to a completely unique way of working. Connection with others is an important part of the transition to university (Christie et al., 2008; Ahn and Davies, 202). However, this study indicates that students have found this a challenging part of the pandemic. Students expressed

a concern that they were unable to develop connections with other students due to the frequency of lockdowns and lack of face-to-face teaching. This is supported by McKay et al. (2021) who found that the lack of connection with other students during the pandemic seriously affected students' wellbeing. Interestingly, McKay et al. (2021) also reported that for some students the adjustment to online learning and lack of connection with other students was welcomed. However, this was not a feature of this study.

For students, the support they received from their peers was an important part of their coping mechanism during the COVID-19 pandemic. This resonates with work by McKay et al. (2021) who found that the added complexity of the pandemic brought peer support into sharp focus. There was a real sense of togetherness which formed between the students within the present study. Effective peer support has always been an important part of a successful transition to university (Baker and Siryk, 1999). However, this study indicates that it was the tools which students used to support one another which altered from previous research. Due to the restrictions placed on meeting face-to-face, students used applications such as WhatsApp and Xbox to contact and support one another during the pandemic.

Coping with feelings of isolation and loneliness was particularly challenging for students during this study. Students experienced feelings of isolation and loneliness prior to the transition and during their first six months at university. These findings concur with recent research in the area. Findings from a study by Kelly et al. (2007) highlight that a failure to develop bonds with peers can lead to significant feelings of isolation and loneliness amongst students. However, for students in the present study, the COVID-19 pandemic exacerbated these feelings, and as a result, there was a feeling that they had 'missed out' on important social occasions and the ability to develop important networks. This chimes with research by McKay et al. (2021) who found that the introduction of the COVID-19 pandemic meant the reduction of face-to-face and interactions and as a result, feelings of isolation and loneliness amongst students.

The role of staff was particularly important for students managing the transition to university. Prior to university, students struggled with support they received from their tutors at college. Students cited the COVID-19 pandemic as one of the reasons why access to support was difficult at college. This resonates with the relevant literature. For example, McKay et al. (2021) found that the COVID-19 pandemic reduced students' interactions with staff which significantly impacted upon their wellbeing. Once at university, students cited the support of staff as crucial to them negotiating their first six months of study. However, they did cite an inconsistency in the support they received from different tutors at university. This chimes with research by Lea and Farbus (2002, p.20) who found that 'the support students received from tutors varied enormously from no time at all, to up to 30 hours'.

Another important finding within the present study was the importance of creating a traditional student experience or students. The students were desperate to have time on campus which included face-to-face teaching and informal discussions with peers in cafés and libraries. These experiences were in short supply during the COVID-19 pandemic which left students feeling like they had 'missed out' on a traditional student experience. This supports the work by McKay et al. (2021) who concluded that students also valued face-to-face teaching and the impact this had on developing a community of practice.

Finally, in relation to staff-student engagement, the importance of effective communication was a feature of this study. Students placed significance on staff communicating effectively during the COVID-19 pandemic. Students in this study appreciated the diverse ways staff communicated with them, using YouTube videos and social media to engage students in alternative ways. These findings chime with work by Zarzycka et al. (2021) who found that social media has a vital role to play as a teaching tool but also to enhance communication between students and staff.

5.3 Online engagement

Findings from the questionnaire and the focus groups would suggest that the sample had a diverse range of digital literacy skills. A large proportion of the sample considered themselves as feeling digitally prepared for their inception to university. Students described their confidence with using mobile phones and applications within the focus group interviews.

Those students that described themselves as not digitally literate or digitally unprepared for the transition into HE shared common areas in which they needed support. The university's VLE was commonly cited as an area in which students needed additional support along with basic software packages such as 'PowerPoint' and 'Teams'. These findings aligned with wider literature that noted that students found adapting to university-based learning environments challenging (Chong and Soo, 2020).

The students that didn't feel digitally prepared did acknowledge the support that was provided by universities in the form of short tutorial videos, short IT courses and email support from lecturing staff. This digital support may have reduced student's fear and anxiety about their transition (Snelling and Fingal, 2020).

Students explained how they were provided with limited options other than to engage with online learning during the past two years. Questionnaire results found that 46% of students acknowledged that online resources were useful, and students also stated in the focus groups how they used online tools such as 'Teams' to engage with learning in both college and university. The flexibility of online learning and the ability to learn at their own pace was noted as some of the benefits associated with online learning,

these results aligned with findings from Michael and Murphy (2020) which recorded similar positive aspects of students engaging with online learning.

Although students used digital resources to engage with online learning results were comparable to Vargo et al. (2021) that concluded that online teaching was deemed not as effective as face-to-face teaching. Combined results from the questionnaire and focus group data within the current study suggested that students would like to see a reduction in the online seminars and an increase to face-to-face teaching. These aligned with findings from wider literature that revealed that students stated a preference for learning and teaching to be in physical classrooms (Bojovic et al., 2020). Students within the current study cited a range of reasons for their preference for learning in physical locations including how face-to-face teaching was considered more valuable, more interactive and motivating for students to attend. Students indicated how they struggled with their focus, and ability to digest concepts during online seminars and the lengthy periods of time that students were expected to engage with online learning did negatively impact their physical and mental well-being. Results supported previous findings that described a lack of interactivity within online sessions which was unmotivating to attend and to follow (Patricia, 2020; Chong and Soo, 2020). Results also related to preliminary studies that suggested that student's voices were lost during online sessions as they had to listen to teachers lead instruction in a didactive and unmotivating manner (Biesta, 2019; Vargo et al., 2021).

Similar results were stated in relation to the lack of informal opportunities to learn from peers and their teachers in remote online sessions. Students described their lack of confidence in asking their lecturer questions during the online sessions as opposed to the face-to-face sessions. This was also common in previous studies (McKay et al., 2021) which found that the ability to gain help and support from teachers was reduced online.

Access to broadband connectivity was mentioned by some students as a barrier to engaging with online learning; this was also cited as additional stressor which could lead to further anxiety and impact well-being. These results supported similar findings with the stress associated retaining an internet connection (Chakaraborty et al., 2021). Challenges to accessing a stable Wi-Fi connection were commonly mentioned during the periods of lockdown. Students explained that because families were forced to work and study from home, digital resources and broadband were shared and, in some cases, fought over. Digital access to resources during this period was not universal. Although questionnaire data suggested that most students had access to a laptop and mobile devices to access online learning the focus group data provided more detail about their accessibility to digital resources.

Students stated that they had to replace a lot of digital equipment to be able to access the online learning. The focus groups revealed a series of challenges that students encountered with accessing digital resources which was like findings shared in the

broader literature (Cullianane and Montacute, 2020; Frenette et al., 2020; Lourenco and Tasimi, 2020).

Interestingly, questionnaire results would suggest that access to the internet was more challenging when students had moved to university. This was echoed by some students from the focus group who also described their poor internet connection whilst? living in university accommodation. As Chakraborty et al. (2020) suggested, steady access to digital technologies was a precondition for successful learning within digitally dominated education environments. Without steady access to digital technologies, this can impact not only the student's ability to engage with learning but also impact their academic and social engagement as well as their well-being.

5.4 Recommendations

This study and the extant literature recognise the complexity of student transitions to university. Drawing on our research findings, this section of the report sets out recommendations which have the potential to better support students during induction and the first few months of their degree programme, and encourage engagement.

5.4.1 Develop a rich tapestry of transition activities

The transition to university is one of the most challenging experiences for a student and this has been made harder over the last two years due to the reduction of transition activities in pre-university education. Students in the focus groups discussed how they had not had the opportunity to have lecturers and outside speakers come and talk to them about life at university in the preceding year, that there were few or no outreach programmes or events and most had not attended university open days on campus as these had all been cancelled at the beginning of the pandemic, then moved online. One student mentioned how 'sixth formers are not equipped to deal with uni' (Samira) and this meant that students felt particularly anxious and uncertain about the move to university. A key recommendation from students in both the questionnaire and the focus groups was the need to re-establish these transition activities, particularly open days and opportunities to speak to lecturers and current students so that they can develop a better understanding of life at university and the institution they planned to attend. Another element of the transition which students discussed in detail was how they had no idea what was expected of them or when, what they could do to prepare for the course and what to expect in terms of an average week at university. In this respect, students called for a transition timeline from application to enrolment and then some mock timetables, so they had a better idea about university life. This would help students to feel more relaxed and stop them having to fire off so many 'what do I need to do next' emails to the programme administrators.

5.4.2 Prioritise face-to-face delivery over online sessions

A key recommendation made explicitly by students in both the questionnaire and focus group data is for universities to reduce the number of online seminars and increase the face-to-face delivery of course content by lecturing staff. Although, flexible aspects of

online learning have suited students' varied lifestyles that include full time work and childcare responsibilities whilst they study. An expression for reduced online learning and increased onsite delivery was common across all focus groups and from the questionnaire data. An example of this was demonstrated as a student responded to being asked about what universities could do to improve the transition to higher education; this student responded by saying 'I think it's just got to be limited online, more offline, and face-to-face' delivery (Theo). Findings indicated that face-to-face learning was perceived as more interactive, valuable, easier to digest information and support for learning within the session was more accessible. The increased online delivery imposed by social distancing restrictions although acknowledged as necessary to provide a continuation of study, it did impact student's well-being, focus and motivation to engage with learning.

5.4.3 Build the architecture for academic and social learning communities

A key recommendation from student in this study concerns the development of academic and social learning communities. The students have lived through two years with fewer than usual opportunities for in-person interactions and have felt that they have missed out on incidental and structured learning moments and social events. In the focus groups, students mentioned that they did not know everyone on their course and suggested that more sessions together and more team building would help them to 'get to know each other or mix us up a bit' (Samira). Students mentioned how academic and social activities did not always have to be grand gestures and could include meeting a friend for coffee, small group in-person seminars, large lecture hall experience, really, they wanted to get back to the 'normal' campus-based experience as it was the social interactions, they had missed the most. Students in the focus group wanted university programme leads, and associated staff to plan these opportunities for everyday learning situations, academic forums and social spaces back into their timetables going forward. This approach would ensure there is something for everyone, and would recognise the diversity of the student body, helping to build a cohesive learning community where at a minimum students knew the faces of everyone else on their course and could develop their sense of belonging in the university.

5.4.4 Provide initial and ongoing digital support

Further recommendations relate to the digital support offered by institutions. Digital confidence and competence ranged across the sample with several students explicitly mentioning their lack of digital skills and digital literacy before starting at university which impacted their initial ability to engage with the learning. Those students that were lacking in digital literacy recommended that universities provided more basic guidance on the platforms they would be using on the course in the initial stages of induction. Students expressed how informal guidance on how to use Teams during university sessions (for example whether to turn your camera on or off), an introduction to PowerPoint as examples would have been useful. A frequent recommendation made in relation to digital support was also to issue further guidance about the University's VLE which 'took some getting used to' (Chloe). This was not the

case for all universities as some students acknowledged how their university provided an 'abundance' (Lauren) of digital support. This digital support was offered in the form of short tutorials recorded by lecturing staff that appeared on course 'YouTube' channels, IT certification courses and swift responses to emailed student queries about digital issues. However, knowledge about this support was not universal with several students stating that they were not aware of this support.

5.4.5 Create digital communities

Findings highlight the importance of digital communities to students during their transition to higher education, especially during times of imposed social distancing. All groups described the use of digital chat groups such as 'WhatsApp' which provided a network to ask peers questions about academic course content, a space to discuss assessments, to socialise and to connect with others. Students recommended the adoption of chat groups by universities for lecturers to join to provide immediate response to student queries as opposed to email communication which was described as slow with some lecturers not responding to student emails at all. Students did acknowledge some of the limitations and challenges of universities adopting chat groups but as an alternative they endorsed the use of digital course forums. Course forums provide a space in which 'lecturers can answer questions informally' (Tilly) and provide information about the module. The forums were endorsed by several students who stated that 'I think the forum is a really good idea, like Jamie said, you know. I'm sure there's questions that I want to ask and I'm too scared to, but someone is also thinking the same thing' (Tilly). Digital forums were only available on a few modules with students recommending a wider adoption across more modules to provide further digital support and to improve communication. An additional reason for recommending digital forums mentioned by students was to create an additional portal of communication with students and lecturing staff. Email was described as the exclusive electronic platform to reach students, however responses to student's queries could be slow or even ignored. The findings highlighted that email may be a preferred communication platform for lecturers. This was not always the case for students, a student when asked about whether they used email replied 'I just don't, I just don't' and stated a preference for using the seminar group chat.

5.4.6 Summary of recommendations

This study has provided multiple insights on different aspects of student transitions to university. This section presents recommendations from the study (Table 8) which we consider will be useful for students, schools and colleges and universities.

Table 8 Student transition recommendations

Audience	Recommendations
For Welsh Government	Welsh Government can support the education sector with advice, resources and funding as follows: • Further support for students to develop digital skills and access to IT. • Develop opportunities for HEIs to share practice across various disciplinaries to enhance student experiences. • Provide programmes for HEIs to build relationships with schools and colleges to encourage learners to pursue higher education. • Provide structures or guidance for developing academic and social learning communities. • Develop resources to support digital learning for 16-19 learners. • Provide support for schools to understand learning environments and experiences of universities for year 13 students.
For universities	Universities can support post-16 students prepare for the transition to university as follows: • Provide opportunities for team building/social induction early on • Prioritise face-to-face delivery over online sessions. • Get to know students and their individual needs. • Specific induction for students not arriving directly from education. • Provide a timeline (acceptance to induction) & 'typical' course timetable. • Provide due notice for timetable changes as students have other commitments. • Timetable regular in-person seminars and drop-in office hours. • Provide pre-transition advice to school/college students. • Support the development of students' digital literacy with expectations for how to interact on Teams, 'Moodle' tours and guides to 'PowerPoint' etc. • Model the use of forums, VLEs and assessment portals. • Create bespoke 'how to' videos for digital platforms, course resources etc. • Encourage students to complete IT certification courses i.e., 'Microsoft'. • Create online forums between staff and students to improve communication and include lecturers in these spaces.
For schools and colleges	Schools and colleges can support post-16 students prepare for the transition to university as follows: • Provide pre-transition advice to school/college students. • Provide subject specialist support for EPQ qualifications- support with referencing, university expectations. • Set summer tasks to develop academic skills i.e., literature searches • Create more opportunities for experiential learning for challenge etc. • Get involved with outreach programmes developed by regional HEIs • Get involved in practitioner research in school/college or HEI-led research. • Invite academics to give presentations on their research and life at university- give a face to this transition and an opportunity to develop relationships with staff before they start.
For students	Student transitions to university are challenging. We recommend that students can help themselves better prepare for this shift as follows: • At school or college, look to complete an Extended Project Qualification (EPQ) as this is a piece of extended academic writing which is good preparation for the type of assignments that are completed at university. • Attend several university Open Days to get a sense of the different types of Higher Education Institutions. • If there are no University Ambassadors who come to school or college, post-16 students should ask their teachers to make connections with academics working at the local university and invite them to speak about university life.

6   Conclusions

This study has explored the impact of the COVID-19 pandemic on students transition to university. Students were required to adjust to remote learning, a lack of interaction with others and the challenge associated with starting university. Our study had three central research questions:

RQ1. How academically prepared and engaged were first-year Education students during the COVID-19 pandemic?

RQ2. How socially prepared and engaged were first-year Education students during the COVID-19 pandemic?

RQ3. How digitally prepared and engaged were first-year Education students during the COVID-19 pandemic?

In response to the first question, our study concludes that whilst the pandemic altered the way students accessed learning, the majority felt academically prepared for university. Students indicated that they preferred in person teaching rather than remote learning for a successful transition. Students also recognised the missed opportunities they experienced during the pandemic. As a result, our recommendations emphasise the importance of providing experiential learning opportunities over the next few academic years.

In response to the second research question, our findings suggest that the pandemic had a negative impact on students' pre transition. Students experienced significant social upheaval because of the COVID-19 pandemic. This study emphasises the lack of connection students were able to create with their peers. This led to significant feelings of isolation/loneliness amongst the students and impacted upon students' confidence during the transition to university. These conclusions resonate with similar research in the area which found that the COVID-19 pandemic introduced a feeling of isolation/loneliness amongst first year students which significantly impacted upon their wellbeing (McKay et al., 2021). As such, this study reiterates the importance of future re-induction activities to enable students to connect with others and to make up for lost time.

In response to the third research question, students in this study were digitally prepared for the transition to university. However, whilst they had developed effective digital skills during the pandemic, students' preference was in person teaching. Importantly too, this study shines light on digital accessibility and the challenges students faced in connecting to the internet and their broadband speed. Students struggled accessing digital resources and these were usually outdated and in need of replacement. Students own digital literacy was also a cause for concern. Students lacked confidence in accessing VLE's or adapting to new software and found this aspect of transition negatively impacted on their wellbeing.

7   Appendices

Appendix 1 Student Transitions Survey

Participant information and Informed Consent

Study Title: A study exploring the experiences of undergraduate Education students managing the transition to and within Higher Education during the COVID-19 pandemic in Wales.

Why have I been asked to take part?
This online survey is part of a research study exploring the extent to which undergraduate Education students at Higher Education institutions in Wales feel prepared for the transition to university during the COVID-19 pandemic. As a first-year undergraduate on an education programme, you have been asked to complete the survey so the research team can understand your experiences and opinions about how prepared you were for the transition to university.

What does the study involve?
Once you have provided consent you will be asked to answer a set of questions which focus on your preparedness for the transition to university. The survey should take no longer than 15 minutes to complete and is organised into three sections. The first section asks for information about your university course and context, the second section asks about your views and experiences of the transition to university. The last section asks if you would be willing to participate in a follow-up focus group to gain a deeper insight into your experience and understanding of the transition to university. We have chosen to make each section optional for you to respond to and we encourage you to answer as many questions as you feel able.

Are there any benefits or risks?
There are no anticipated risks to you taking part. Your participation in this research study will contribute to our understanding of undergraduate Education students managing the transition to and within Higher Education during the COVID-19 pandemic in Wales.

What will happen to my data?
All data collected will be confidential, and you will not be identifiable in any presentation or publication arising from this study.

What if I do not wish to take part?
It is up to you to decide whether you would like to participate in this study. You may refuse to participate in this study, and you may withdraw from the study at any time.

Who do I contact about the study?
For further information about this study or your participation in it, please contact our research assistant.

This research study has been approved by Cardiff Metropolitan University's School of Education Ethics Committee. Ethics project code: CSESP20212212.

The research team thank you for your participation.

Research team:
Dr Kieran Hodgkin, Cardiff Metropolitan University
Dr Emma Rawlings Smith, Bangor University
Dr Nick Young, Cardiff Metropolitan University
Dr Sonny Singh, University of Wales Trinity St David
Dimitra Magkafa, Cardiff Metropolitan University

Q2 I can confirm that I have read and understood the participant information for this study and I voluntarily consent to taking part in the study. *Required

- o Yes (1)
- o No (2)

Q3 I understand that I can refuse to answer any question without the consequence or withdraw from the study until 1 February 2022 by contacting the research team. *Required
- o Yes (1)
- o No (2)

Q4 Section One, Participant role and context
 Which university are you enrolled at?
- o Aberystwyth University (1)
- o Bangor University (2)
- o Cardiff University (3)
- o Cardiff Metropolitan University (4)
- o Swansea University (5)
- o University of South Wales (6)
- o University of Wales Trinity Saint David (7)

Q5 How old are you?
- o 18 years old (1)
- o 19 years old (2)
- o 20 years old (3)
- o Other (4)

Q6 What gender do you identify as? *We are asking this to understand if our data fully represents the student population.*

Q7 What is your ethnic group? (Choose one option that describes your ethnic group or background)
- o White British (1)
- o White other (8)
- o Mixed / multiple ethnic groups (9)
- o Asian / Asian British (10)
- o Black British (11)
- o Other ethnic group (12)

Q8 Do you have the following?
Please do not select more than 1 answer(s) per row.

	Yes (1)	No (2)
A laptop with camera and microphone (1)	o	o
Your own printer (2)	o	o
Your own tablet (3)	o	o
Your own smartphone (4)	o	o

Q9 How would you describe your Wi-Fi connectivity prior to university?
- o Weak (1)
- o Limited (2)
- o Satisfactory (3)
- o Good (4)
- o Excellent (5)

Q10 How would you describe your Wi-Fi connectivity during your university studies?
- o Weak (1)
- o Limited (2)
- o Satisfactory (3)
- o Good (4)
- o Excellent (5)

Q11
Section Two: Academic, social and digital dimensions of student engagement
How far do you agree with the following statements about academic engagement?

Please do not select more than one answer(s) per row.

	strongly disagree (1)	disagree (2)	neutral (3)	agree (4)	Strongly agree (5)
I enjoy the intellectual challenge of subjects I am studying (1)	o	o	o	o	o
I get a lot of satisfaction from studying (2)	o	o	o	o	o
Lectures often stimulate my interest in the subjects (3)	o	o	o	o	o
I am finding my course intellectually stimulating (4)	o	o	o	o	o
I am usually motivated to study (5)	o	o	o	o	o
I am strategic about the way I manage my academic workload (6)	o	o	o	o	o
I regularly study on the weekends (7)	o	o	o	o	o
I regularly seek advice and help from teaching staff (8)	o	o	o	o	o
I rarely skip classes (9)	o	o	o	o	o

	strongly disagree (1)	disagree (2)	neutral (3)	agree (4)	Strongly agree (5)
I regularly borrow books from the university library (10)	o	o	o	o	o
I regularly ask questions in class (11)	o	o	o	o	o
I usually come to class having completed readings (12)	o	o	o	o	o
I usually complete all my assignments (13)	o	o	o	o	o
I regularly make class presentations (14)	o	o	o	o	o

Q12 Based on your experiences prior to university, how academically prepared were you to make the transition to university?
- o Very prepared (1)
- o Prepared (2)
- o Slightly prepared (3)
- o Slightly unprepared (4)
- o Unprepared (5)
- o Very unprepared (6)
- o Neither prepared or unprepared (7)

Q13 What additional support would have been useful, ensuring you were academically prepared prior to university?

Q14 In what way has your university supported your transition to university and develop a sense of belonging?

Q15 What further support at university would you have found useful?

Q16 How far do you agree with the following statements about social engagement?
Please do not select more than 1 answer(s) per row.

	strongly disagree (1)	disagree (2)	neutral (3)	agree (4)	Strongly agree (5)
I regularly work with other students on course areas with which I have problems (1)	o	o	o	o	o
I regularly get together with other students to discuss subjects/units (2)	o	o	o	o	o
I regularly study with other students (3)	o	o	o	o	o
Studying with other students is very useful to me (4)	o	o	o	o	o
I regularly work with my peers outside of class on a group assignment (5)	o	o	o	o	o
I regularly work with other students on projects during class (6)	o	o	o	o	o
I regularly borrow course notes from friends in the same module (7)	o	o	o	o	o

I feel part of a group of students and staff committed to learning (8)	o	o	o	o	o
There is a positive attitude towards learning among my fellow students (9)	o	o	o	o	o
Most academic staff take an interest in my progress (10)	o	o	o	o	o
The teaching staff are good at explaining things (11)	o	o	o	o	o
Teaching staff usually give helpful feedback on my progress (12)	o	o	o	o	o
Most of the academic staff are approachable (13)	o	o	o	o	o
Staff are usually available to discuss my work (14)	o	o	o	o	o
One-to-one consultations with teaching staff are useful (15)	o	o	o	o	o
I feel confident that at least one of my teachers knows my name (16)	o	o	o	o	o
Staff made it clear from the start what they expect from me (17)	o	o	o	o	o

Q17 Based on your experiences prior to university, how socially prepared were you to make the transition to university?
- o Very prepared (1)
- o Prepared (2)
- o Slightly prepared (3)
- o Slightly unprepared (4)
- o Unprepared (5)
- o Very unprepared (6)
- o Neither prepared or unprepared (7)

Q18 What additional support would have been useful, ensuring you were socially prepared prior to university?

Q19 What could be done at university to increase collaborative activities, interactions and learning with peers and staff in a purposive way?

Q20 How far do you agree with the following statements about digital engagement?
Please do not select more than 1 answer(s) per row.

	Strongly disagree (1)	disagree (2)	neutral (3)	agree (4)	Strongly agree (5)
Online discussion with my peers is very useful (1)	o	o	o	o	o
Using email and/or other platforms to contact other students is very useful (2)	o	o	o	o	o
Online tutoring (electronic access to tutoring support) is very useful (3)	o	o	o	o	o

Computer software designed specifically for the course is very useful to me (4)	o	o	o	o	o
Using email to contact lecturers/tutors is very useful (5)	o	o	o	o	o
Subjects offered online with no face-to-face classes are useful (6)	o	o	o	o	o
Online resources (e.g., course notes and resources) are very useful for me (7)	o	o	o	o	o
Learning at my own pace using online resources is useful (8)	o	o	o	o	o
I regularly use web-based resources designed specifically for the course (9)	o	o	o	o	o
I regularly use email to contact friends in my course (10)	o	o	o	o	o
I regularly use online discussion groups related to my study (11)	o	o	o	o	o
I regularly use the web for study purposes (12)	o	o	o	o	o
I regularly use email to contact lecturers/tutors (13)	o	o	o	o	o

Q21 Based on your experiences prior to university, how digitally prepared were you to make transition to university?
- o Very prepared (1)
- o Prepared (2)
- o Slightly prepared (3)
- o Slightly unprepared (4)
- o Unprepared (5)
- o Very unprepared (6)
- o Neither prepared or unprepared (7)

Q22 What additional support would have been useful, ensuring you were digitally prepared prior to university?

Q23 What could be done at university to improve your digital teaching and learning experiences?

Q24 What impact is the COVID-19 pandemic having on your experiences at university? Please select the statement that accurately reflects your viewpoint.
- o It is not having an impact on my experience at university (1)
- o It is not having a minor impact on my experience at university (2)
- o It is having an impact on my experience at university (3)
- o It is having a major impact on my experience at university (4)

  o Prefer not to say (5)

Q25 Section Three: Invitation to participate in a student transitions focus group

Would you be willing to be contacted for a follow-up student transitions focus group?
  o Yes (1)
  o No (2)

Q26 Please provide your name and email address if you answered 'Yes' to being contacted about a focus group.

Q27 **Page 5: Final Page: Participant debrief**
We would like to take this opportunity to say thank you very much for taking the time to complete our survey on Student Transitions. We plan to present our findings in a report for Welsch Government and an article on the study is hoped to be published afterwards. We welcome the opportunity to answer any questions that you may have in relation to any aspect of this survey or your participation via email. If you later feel that you want to withdraw your data from the study, please email us with your survey receipt number before 4th March 2022. Thanks and very best wishes from the research team Kieran, Emma, Nick, Sonny Please contact the research assistant if you have any follow-up questions:

Thank you.

Appendix 2 Focus group interview schedule

Pre university study: context/ digital / social / academic	Participant context:
Tell us about your context before going to university, what were you doing/ studying/ living.	Household income? (Financial situation) socioeconomic status family's pre-tax annual earnings Participant information experiences pre transition: Where did you live prior to university? Location / accommodation? What were you doing before university? (college/ 6th form / gap year) Study environment: Describe study space: shared desk / own room etc.
Academic experiences pre transition: What did your learning experience in an average week look like in the year before going to university (consider your work space, access to teachers and classmates, access to resources, textbooks and learning platforms)?	**Academic experiences pre transition:** Learning experience: Type of learning that took place. Face to face / online / software used etc. - content delivery / interaction / assessment / health and well-being – excessive screen time / social issues associated with online interaction – online education impacting on your health? How much of the learning was online? F2F? Techniques employed to improve interactivity: flipped classroom, case studies, and gamification Access to online resources to support learning (library / reading etc)? Access to teaching staff. Student engagement with learning: how engaged were you? What worked well / what could have been improved? What is your evaluation of school / college teaching? What were your academic strengths pre university? What were the areas you needed to develop? Where have you needed support?
Digital experiences pre transition: How confident, skilled and able to use technology for learning purposes were you before going to university?	**Digital experiences pre transition:** Your personal digital skills: confidence in using technology to learn Wi-Fi / Internet. Internet speed, access & capability, adapting to online learning? Broadband speeds? Access to the internet? What challenges did you face with computer/ tech, access to a printer, broadband speed, type of platform used by school - new, old)? How many hours were spent on online learning in school / sixth form etc. before the transition?
Social experiences pre transition: How did you feel about coming to university?	**Social experiences pre transition** How much interaction with peers did you have before starting university? How did social distancing and home-schooling impact on your social preparedness for university?
At university: context / digital / social academic What do you study? Where do you live?	**Participant information:** Where did you live during university study? Location / type of accommodation? Study environment: Study space: shared desk / own room to work etc. **Academic experience university:** Describe your learning experience at university face-to-face / online / software used etc. content delivery / interaction / assessment / health

Academic experience university Describe your learning experience at university (consider your work space, access to lecturers and classmates, access to resources, textbooks and learning platforms)?	and well-being – excessive screen time / social issues associated with online interaction – online education impacting on your health? How confident are you in adapting to online learning? What is your evaluation of university teaching? Techniques employed to improve interactivity: flipped classroom, case studies, and gamification Access to online resources to support learning (library / reading etc.)? Access to teaching staff? Student engagement with learning: how engaged are you? What worked well? What could have improved your academic transition into HE? What are your academic strengths at university? Where do you think you need to develop? Or need support?
Digital experience in university: How confident, skilled and able to use technology for learning purposes are you now that you are at university?	**Digital experience in university:** How would you describe your personal digital skills now? How confident are you in using technology to learn now you are in university? Wi-Fi / Internet. Internet speed, access and capability (in your student accommodation). Broadband speeds? Access to the internet? How many hours are spent online learning in university? What challenges do you face (access to tech, printers, high-speed broadband, resources, learning platforms etc.)?
Social experience university How does the ongoing COVID-19 pandemic impact on your social life?	**Social experience university:** What opportunities have you experienced to develop peer relationships? What could have improved your social transition into HE? Made friends on the course?
Recommendations	What further support could schools, colleges and universities provide you with?

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