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ORIGINAL ARTICLE

Supporting transitions to special school: Co-constructing virtual tours to share important knowledge about school sites and practices

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Abstract

Transitions between stages of schooling present well-known challenges for children with special educational needs and disabilities, including navigating new sites, people, practices, timetables and expectations. Site visits are often recommended for helping with transition, and yet such visits can be difficult to achieve for practical and logistical reasons. This study piloted the development of virtual tours that were co-created with two special schools to support the transitions of children with complex communication and learning needs. We were interested in what the co-creation process revealed about the practices and site features that schools felt were important to share with others to help them understand what to expect. We were also interested in the ways in which the schools enabled the voices of young people with complex needs to be included in the tours. Accordingly, we examine whose and what knowledge was shared in the creation of the tours, and how this knowledge may be used to support transitions. We conclude that virtual tours could be a helpful transition tool to support children and families' familiarisation with a new school site. The findings offer a preliminary framework for planning virtual tours that could be applied and evaluated in future research.

KEYWORDS
autism, knowledge co-construction, special educational needs and disabilities, transitions, virtual tours

Key points

- Virtual tours use 360° panoramic photographs and videos of real places to introduce people and spaces to viewers that can be explored before, between or after in-person school transition visits.
- This study piloted the co-creation of 360° virtual tours with two special schools to explore what kinds of things they wanted others to know about the school and how young people could be included in the tour creation.
- Staff and students contributed knowledge in different ways to the tour creation, including through participating in filmed activities and in providing narration to explain what classrooms and outdoor spaces were usually like.
- Virtual tours could be a powerful option to add to schools' transition toolkits. A design framework is included that can be implemented and evaluated by practitioners and researchers.

INTRODUCTION

It is well-established that transitions between stages and sites of schooling can be experienced as challenging for all children, and especially for children and young people with special educational needs and disabilities (SEND) (Humphrey & Ainscow, 2006; Parsons et al., 2009). Explanations provided for these challenges include the anxiety that children and families report about meeting new people and making new friends, as well as navigating unfamiliar timetables, spaces and rules, including where and when to eat, how to behave, and what to wear (e.g. Hoy et al., 2018; Makin et al., 2017). Negative experiences of transition, both anticipated and experienced, can be highly impactful and maintained over the longer term, at least for some children (Mandy et al., 2015; West et al., 2010).

Reviews that synthesise international research identify substantial commonalities across different countries and types of educational need (Nuske et al., 2019; Strnadová et al., 2023). This includes recognition that transitions are not just a move between places but that the move between primary to secondary school offers 'unique contextual challenges' occurring at a time of developmental significance for young people and involving complexities relating to puberty, and the navigation of numerous stakeholders, systems and structures (Strnadová et al., 2023, p. 16). Accordingly, Strnadova et al. (2023, p. 16) argued for the importance of involving key stakeholders in transition planning, and the provision of adequate information about the new school that can be gained through 'orientation days and visits'.

However, in a systematic review on the transition experiences of autistic children and young people, Nuske et al. (2019, p. 317) concluded that despite many recommendations from research highlighting the importance of this kind of preparation, such visits were often 'difficult or impossible in some school districts due to logistical issues such as late placements and limited teacher/parent time'. Given the importance of good transitions to children and families' well-being, Nuske et al. (2019, p. 318) therefore emphasised the 'pressing need' for more community-based research in this area. Consistently, Strnadova et al. (2023, p. 318) called for schools to 're-examine and reform past approaches to transition from primary to high school for all students before it is too late for another generation of young people'. It is within the context of these calls that this study piloted and evaluated an innovative digital methodological approach for supporting transitions of children with SEND through the co-construction of 'We are' virtual tours with two special schools supporting children with complex learning and communication needs.

What are 'we are' virtual tours?

We refer specifically to 'We are' tours in this article to reflect our particular approach; that is, a virtual tour co-created with schools to support the transitions of children joining the school or site to show people 'who we are' before they arrive. Virtual tours generally use a range of media including videos and 360° panoramic photographs to create an interactive tool that enables the young person and their family to understand and explore the environment before, or between, visiting (readers may already be familiar with the idea of virtual tours for exploring houses on estate agent websites or enabling visits to art galleries and exhibitions, for example). The tours use 360° panoramic photographs that are 'stitched' together to create an immersive and explorable, photorealistic representation of spaces. Someone using a virtual tour can look around in any direction, and follow arrows to other locations, rooms and points of interest at their own pace. They may also watch inset videos embedded in the tour (e.g. of staff or activities that can be found in a particular room or area) or use a floor plan to orient themselves. Virtual tours are typically viewed and navigated through websites and do not require any special input devices or hardware, though some can also be viewed using virtual reality headsets which provide an even more immersive experience.

Virtual tours as described here are not the same as virtual reality (VR) environments, since the former are rendered through the stitching together of panoramic photographs of real spaces while the latter creates computer-generated simulations of 3D worlds that can be closer to, or further away from, reality. Research using VR technologies has been more prevalent in exploring its potential for supporting children with SEND, especially autistic children and young people, with social and everyday tasks (for a review, see Parsons, 2016). By contrast, research using virtual tours tends to focus on supporting the general population to access tourism (e.g. visiting museums; Sylaiou et al., 2017), otherwise inaccessible sites (e.g. within archaeology; Kyrlitsias et al., 2020) or experiments and procedures that may be risky in real life (e.g. in Physics classes; Yavoruk, 2023). We could not find any examples where virtual tours of the kind we focus on here (using 360° panoramic photographs and videos of real spaces) have been the focus of education co-construction and evaluation research focusing on transitions between sites or stages of schooling, or for supporting children and young people with SEND.

Importance of knowledge co-construction between research and practice

Respecting and reflecting the different knowledges that social actors bring to their understanding of experiences is central to enabling effective knowledge co-construction in research which, in turn, is vital for making an impact on educational practice (Parsons et al., 2022). Knowledge co-construction between practice and research therefore necessitates the implementation of more collaborative and participatory approaches

to research so that different knowledges can be contributed in meaningful ways (Parsons et al., 2022; Pascal & Bertram, 2012). In this project, we argue that co-constructing knowledge with practice helps make the implicit practice-based assumptions explicit, particularly those that are embedded within contexts and activities that may not be obvious to people who are new to the environment. Edwards (2020, p. 2, emphasis in original) refers to such tacit assumptions as 'common knowledge' which is 'comprised of the motives, the *what matters*, that give shape to and are shaped in institutional practices'. We therefore wanted to explore the possibilities afforded through the co-creation of a virtual tour for surfacing and sharing important knowledge about school sites and practices that may be helpful for children and families to know either ahead of physical visits or instead of these (where visits may be difficult to achieve). It was not clear from the outset how the knowledge of the young people attending the schools would be included in the creation of the tours, and so we were particularly keen to see how the schools enabled this at their sites.

Accordingly, our research questions were:

- Whose knowledge is included in the co-creation of a 'We are' virtual tour to support transitions to school?
- What knowledge about school practices is revealed and shared in the co-creation of a 'We are' virtual tour?

METHODOLOGY

Setting the context: The special schools involved in creating 'we are' virtual tours

Two special schools were involved in the project, both of which were established collaborators of the research team and named partners on this funded project. The first was New Forest School (NFS), which is an independent special school in the south of England that supports children with complex needs aged eight to 16 years, more than half of whom are autistic. Often, these young people have experienced very disrupted educational trajectories and may require a different kind of educational approach to enable them to engage with learning. The school is located across different sites catering for different stages and types of education; for example, three sites offer bespoke but more traditional classroom-based education where young people move between different classes and teachers for subject-based lessons and activities. Additionally, there is the Outdoor Learning Centre (OLC) which enables young people to engage with practical and activity-based learning in outdoor space. The use of different sites for different ages and cohorts means that young people move to a new site at key points in their education; in this case, we focused on the move that some students make between the OLC and the Key Stage 2 (KS2) provision (i.e. primary provision for children aged between seven and 11 years). Due to their very disrupted educational trajectories, the transition planning to support young people to join the KS2 site is considerable. The school felt that the creation of a 'We are' virtual tour could be a useful tool for them to support students in becoming familiar with the spaces and staff of the KS2 site before and between physical visits.

The second school is Hill House School (HHS), which is a specialist residential school for autistic young people aged 11 to 19 years with complex communication needs and significant intellectual disabilities in the south of England. Their site comprises homes for the young people, plenty of outdoor space, and a campus of interlinked rooms and spaces where young people are supported to engage in a wide range of activities to support their learning. Class sizes are very small (individual or around two to three) and staff-to-pupil ratios are high to accommodate young people's learning needs in a very individualised way. The emphasis is on enabling 'choice and voice' for young people so that they become 'confident, independent learners' through building their skills and exploring a wide range of activities (Hill House School website, 2023).

The process of co-creation of the 'we are' virtual tours

The research team worked closely with project partners Autek CIC who employ autistic and disabled people to make public places more open and accessible through videos and virtual tours. They have supported the creation of virtual tours for a range of different purposes including for Portsmouth Football Club, and to demystify the vaccination process during Covid-19. The team worked closely with each school to develop a virtual tour that enabled them to highlight their environments and features of practice that they felt it was important to emphasise to new people (children and families) joining the site.

Table 1 provides a summary of the key features that school personnel wanted to include in their tours, the equipment used to produce different elements of the tours, the role of young people in the creation of the tours, intended audience(s) for the tours, and the link to view the completed tours. The link allows readers to directly access the voices and embodied knowledge of the children and young people at the schools through hearing their narration in the NFS tour and seeing their interactions and engagement with activities in the HHS tour.

Evaluation of the process

Evaluation data were collected from four people via three semi-structured interviews following co-construction of

TABLE 1 Summary of the virtual tour co-creation process with the two special schools.

	Key personnel involved in the creation of the tour	Key features/aims of the tour requested by the school	Equipment used to create the tour	Involvement of young people in the tour	Intended audience(s) for the tour	Link to the finished tour
New Forest School	Headteacher at the KS2 site alongside other staff members, three current students, and a researcher (second author). The headteacher was the overall decision-maker in terms of how the tour was initially organised and planned. Technical support from Autek with the filming and editing process.	Aimed to create a virtual tour of the whole site that focused on enabling students to move around the space using the pathways they would commonly use.	A 360° camera was used to capture the spaces which were then edited together using my360 software. Standard SLR digital cameras were used to create walkthrough videos to capture three of the most common journeys that pupils would take around the school, and inset videos of key staff members whom the pupils would encounter (the receptionist, two members of the pastoral team, the KS2 co-ordinator, transition tutor, and headteacher).	Narration on the walkthrough videos by three current students. They watched the walkthrough videos and provided commentary about what they saw in the videos and what they wanted to highlight for other young people who were joining the site.	The children who would be transitioning to the site; parents and carers; and other interested stakeholders such as local authority personnel and Ofsted school inspection teams.	https://www.whatsitlike.co.uk/user/78
Hill House School	Key members of senior leadership team at the school who had a clear idea of what they wanted to show and how they wanted to show it [specific roles not named to respect confidentiality]. Involvement from Autek to ensure that the scenes were professionally captured and that they were delivered in the way the team at HHS wanted.	Aimed to showcase the facilities and activities that happen in the school. These included day-to-day activities such as getting lunch as well as activities that may happen in class and in the on-site accommodation. Four main principles guiding tour design: Initial welcome – someone introducing the film and using sign language Include footage of each space and an activity taking place Each part of the film was annotated to explain the space Ability to click on one room/location at a time and experience the space	A 360° camera was used to capture the spaces within the school and then traditional digital SLR cameras were used to capture live footage of the activities that were held in those spaces. Locations included classrooms, art and therapy rooms, sensory spaces, outdoor spaces, the school café, and one of the student houses on site.	Young people included through film clips of their participation and engagement in activities.	Incoming students and those who may support them including parents/carers. The tour could also be shown to other stakeholders who may want to know what happens in the setting (e.g. commissioners of services).	https://www.whatsitlike.co.uk/user/75

the virtual tours: two key staff members from HHS (joint interview), the headteacher from the KS2 site at NFS and a staff member from the OLC. No further details are provided about these staff members to preserve their confidentiality in the reporting of the project, in line with our ethics approval. Additional data included the researcher's field notes compiled throughout the creation of the 'We are' virtual tours, describing how decisions were made, who was involved, and what the schools were aiming for with the tours. The final tours were also used to illustrate specific aspects of content and practices, including the videos that showed the interactions and activities of students at HHS and a transcription of the pupil narration at NFS. The interviews aimed to understand the process of creating a 'We are' virtual tour from the perspectives of practitioners based in each setting. These interviews took place in person on the school sites and were audio-recorded for subsequent transcription.

Ethics

The process of creating the 'We are' virtual tours, including children's involvement, the evaluation interviews, and the decision to share the tours publicly, are covered under the ethics review and approval process in the Faculty of Social Sciences at the University of Southampton (reference # 62326.A5). Informed parental consent was provided for the students' participation, and all staff members provided their consent to participate in the creation of the tour and (as appropriate) the evaluation interviews.

Analysis

The data were prepared for analysis with the transcription of interviews and student narratives, and written field notes, all in Microsoft Word and imported to NVivo (QSR International, 2022; release 1.6.1). The interview and fieldnote analysis was conducted by a researcher (the third author) who had not been part of the creation process of the virtual tours, with the first author incorporating analysis of the tour content. A thematic analysis followed the steps described by Creswell (2021). Initial coding of the data followed a deductive and descriptive approach in which sections of the data were summarised with short phrases according to each of the main orienting research questions (i.e. whose knowledge, and what knowledge is shared). For example, children at the setting were described as 'showing what's important to them', and 'really invested in the school'. Codes describing similar concepts were connected to form initial themes, for example, 'a sense of belonging', and the aims of the study were used to identify relevant themes. Additionally, more emergent codes were also identified through the analysis, especially relating to the 'feel' and 'ethos' of the schools.

FINDINGS

Interviewees are referred to below as 'HHS staff' (Hill House school staff), or 'NFS staff' (the Key Stage 2 staff member from NFS and the staff member from the OLC). The boys participating in the narration at NFS are denoted as B1, B2 and B3. Sub-themes are indicated via italicised text.

Whose knowledge is shared?

The children's knowledge

Several sub-themes related to the knowledge that children contributed to the 'We are' virtual tours. First, there was a *sense of belonging* evidenced through the enthusiasm of students taking part at NFS:

> While they were doing the video, they were really invested in the school. Their pride was there. They wanted to do a good job and they wanted to showcase our school.
>
> (NFS staff)

This was also clear from the narration that students provided, including talking about their favourite places or activities and promotion of NFS as a fun place to be:

B1: There is a lot of fun when it comes to being at NFS. Lots of great thiiiiiings happen!

B2: Then we have the basketball racks.

B1: My favourite part of this playground is the grass where I get lost in imagination.

Second, there was a strong sense of wanting the virtual tours to be *welcoming to other children* and inclusive in their approach. For Hill House, this was about ensuring participation and visibility for students:

> I think our video as well really includes all the different children that we have here, and I think that it was important that our video was accessible for everybody and not just one type of person that was going to move in.

Examples from the virtual tour include inset videos showing activities taking place in different rooms. In some spaces there is a 1:1 staff-to-student ratio, while in others there are group activities shown, though still with small-sized groups. There is an emphasis in the clips on students interacting with staff in different ways, including non-verbally, and being supported to

make choices and be autonomous while engaged with the activities.

For NFS, this was about the participating students reflecting on how they had felt about their own transition and wanting to use that knowledge to help put others at ease:

> When I explained this is the reason we are doing it, what did you feel … it evoked a whole conversation of how they felt because all of those children transitioned from the outdoor learning centre. So … they were really excited when I said you're gonna help other children transitioning.
>
> (NFS staff)

Reflecting this, the students emphasised fun in their narration of the classrooms:

B1: Welcome to our classroom!

B3: The Year 4 classroom where everything fun is made.

B1: The funnest room I think in this whole school!

Third, there was a sense in which the creation of the virtual tours had enabled young people to have *a powerful voice* and that this was important for incoming students to benefit from:

> having the child's voice in the background … as part of the resource that you guys created was really beneficial because it … again it was … the young people seeing it from the young people's perspective um which I think is quite powerful.
>
> (NFS staff)

The staff members' knowledge

Staff knowledge encompassed two sub-themes, the first of which was about showcasing the *features and life of the setting* that really mattered to them and which they felt that other people would really benefit from knowing about. This centred on showing a range of activities and spaces and emphasising that the school was full of opportunities and a happy place to be:

> For us, it was all about the fun things that we do and the experiences that we offer and the interactions. The way our staff are with our young people and those opportunities that are here, waiting for those young people. And we just really felt strongly that we wanted that to come across in the video.
>
> (HHS staff)

> You know the OT [Occupational Therapy] room, [the children said] this is where we have the most fun … walking them over to the outside space. This is where we do PE or have some time out.
>
> (NFS staff)

Being able to reflect on the process and what mattered to the school also created a *sense of pride* for staff in being able to share the range and diversity of practice at the school, in a similar way to the children's pride that was commented upon above:

> We also wanted a cross section of young people to be involved and a cross section of staff to be involved. And I think again, we just sat down with our wider team who were keen to be involved. Hill House team has been enabled to show what they are proud of about Hill House.
>
> (HHS staff)

What knowledge is shared?

The sub-themes related to shared knowledge were grouped into two main categories: (1) physical and sensory aspects of the schools, and (2) how staff and children wanted the school to be experienced by others, including showing the kinds of activities that take place.

Physical and sensory aspects

As might be expected, *spaces and equipment* were prominent in what was shown in the tours since this is one of the main affordances of designing a virtual tour. It was important for both schools that virtual visitors on the tour could choose to explore the different spaces and understand where they might be once at the school so that, as HHS staff commented, *'they can be* in *the room.'* For NFS, it was important that the tour showed the location of classrooms and where children would be, and it was also important that the route through the school was clear:

> For the 'We are…' [tour] the footage is all taken on the school premises and covers all areas of the site that KS3 pupils would access. The videos were used as … a tool to show the children around the site.
>
> (researcher field notes)

There was also benefit demonstrated in co-constructing the tour with Autek staff members who were themselves neurodivergent and brought both their

experience as technicians and an understanding of what new visitors to the site might want to see. This was very helpful for the headteacher at NFS since they recognised the value of different perspectives and the taken-for-granted nature of their own thinking:

> So he [Autek team member] knew what the place looked like from the outside, which I didn't … I will say at the start of this process, I thought what does he want that for? But however, he saw it from the outside … [and] he saw it from the inside, he saw it from reception. He saw almost the journey.
>
> (NFS staff)

The *sights and sounds* of the schools were important considerations, alongside awareness that different users of the tour might need different information and that it would be helpful to be able to provide options. Thinking this through for the schools with the research team, including Autek, was an important part of the tour development since again this helped them to make explicit the elements that they felt mattered for the young people joining them:

> when you think about it … there is road traffic noise … and it made you more astute to that … and actually when I do talk to transitions, I can say there is a busy road actually and sometimes in this classroom you will hear it more.
>
> (NFS staff)

The final NFS tour enabled users to navigate through the tour and access content in three different 'layers' depending on their preferences: (1) without any sounds or captions, (2) with the student audio narration, and (3) with student audio narration and captions of what was being said. Likewise, HHS were mindful that users may want to interact with and access the content in different ways, and also created different layers of content to reflect this:

> It was really good for us to be really involved in that because we were really conscious of what do we want our new children to see? What's gonna work for them? What's meaningful for them? Is it a video that they click on and watch an activity or um they can move around a 360 picture and look at that and really play on the computer? Or is it just someone who's with that young person being able to click play and the videos playing in the background? And they can be in the room, but they might not be actively interacting with it. So, I think we … [decided] that it was really important for us to have both versions of that … to cater for the different young children that we have here.
>
> (HHS staff)

A good example from the tour is the inset video of the school café which starts showing the layout of the empty café and where the food is displayed along the counter; then students start to enter the café and choose their food, and more background noise can be heard.

Experiential aspects: 'a feel for the place'

It was important for both schools to include, and then move beyond, a basic tour that would just show virtual visitors the physical layout of classrooms, corridors and outdoor spaces, as staff from HHS emphasised: *'We wanted to show the best and we wanted it to be beautiful'*. For HHS this included showing the *activities and interactions* that take place and how much fun these could be:

> Yeah, we were quite clear in our heads what we wanted actually, from the beginning. We've seen lots of virtual tours of schools and other settings, businesses and such like and they're great. And they're immersive and interesting and you get a real sense of the building and the place but for us, it was all about the fun things that we do and the experiences that we offer and the interactions.

Examples from the virtual tour included showing young people exercising and relaxing in their home environment, as well as enjoying a reading activity outside in the woods.

The students narrating the tour at NFS were clear about how they used some of the spaces and that the spaces could be used differently depending on preferences; they were aware that regulating emotions was an important part of being at NFS and wanted to convey that as well as the fun parts:

> ***B2:*** On the grass we do imaginary games and there's benches on the grass for drawing. Sometimes if I've been struggling I take my drawing out with me. Then we have, it's not quite a climbing frame, but it looks like it, and we have a little bench area. You can sit down, and sit in the shade, if there is any shade! If we want, we can just sit there, and just chat.

Given that the educational trajectories for many young people attending both schools were often complex and disrupted, the aspects of fun sat alongside a clear desire to show a *non-threatening view* of the school that might begin to assuage inevitable anxieties:

> What really impacted me was they were going to do a run through first of empty rooms and an empty space. And that was what captured my imagination because … they've had these bad experiences … they've had lots and lots of moves. So actually, just to see an empty, non-threatening building so that they can see the walkthrough of how things happen, that was what sparked my interest.
>
> (NFS staff)

Notably, while the headteacher was keen to show the empty rooms, the children's narration helped to convey a sense of what the spaces were usually like when other children were there:

B2: This is the Year 6 classroom, mostly it's the busiest room.

B1: It's always buzzing! It is calm half the time.

B3: This is the Year 5 room, kind of like a classroom and a library at the same time.

B1: Full of calming books, so nice!

B2: And it's very light and calm.

Having the tours available alongside the usual prospectus also helped to initiate *earlier conversations* with families so that they could get a feel for the place, meet people virtually, and address some of their anxieties too:

> So, we used the video and that's the first time … so his very first transitional stage was at the care home with his care staff and his parents, to sit so that they could see and talk about it. So, the transition started before he'd even met me … It evokes the questions before they come … and so I think that's powerful.
>
> (NFS staff)

> This was a really lovely opportunity to be able to support them [prospective students] to experience Hill House from somewhere that they feel comfortable and safe … so that hopefully when they do move in, it will be a smoother kind of transition for them. Something that families can be involved in and sit with their son or daughter and talk through and get equally as excited about!
>
> (HHS staff)

DISCUSSION

We aimed to co-create and explore what and whose knowledge was shared in the creation of 'We are' virtual tours for supporting the transitions of students into two special schools. In other words, we wanted to know *what mattered* (Edwards, 2020) to the participating staff and the young people when thinking about what other people might want to know about their schools and examine how this knowledge was incorporated into the tours. It was evident that the knowledge of young people and staff was critical to the construction of the 'We are' tours, and young people's voices and experiences were expressed and valued in different ways. For example, young people's embodied knowledge (Parsons et al., 2022) was central to the construction of the HHS tour, including students being shown engaging with different activities, calm and happy, and making choices within the different spaces and activities of the school. The knowledge expressed via voice-overs by the young people at NFS augmented the visual representation and exploration of spaces of the tour by explaining what things were usually like, or how spaces could be used and experienced differently depending on preferences. The inclusion of young people's voices in a range of ways also provided meaningful knowledge about the value that the schools placed on those voices; in other words, the tours were revealing about the ethos of the school in relation to how young people were included, supported and engaged in the activities that took place, and enabled to demonstrate their agency.

These examples show how different contributions to the knowledge of school spaces and activities by neurodivergent children and young people can be included in co-design processes and outcomes in ways that move beyond more traditional approaches to learner-centred design, which have typically involved a narrow and functional assessment of usability or effectiveness of technology interventions, that is, exploring what works and for whom (Spiel et al., 2017). As Spiel et al. (2017) and Frauenberger (2019) argue in relation to participatory design approaches, there is a need to consider more holistic ways of designing for and with different populations that enable knowledge co-creation in more embodied, relational ways. Accordingly, in seeking to understand the potential value of 'We are' virtual tours, we position young people as social actors whose knowledge (felt or lived experience) is contributed through being enacted within the tours themselves rather than more narrowly represented through verbal or written feedback on or about the tours.

We argue that the value of the tours was further demonstrated in the different layers of knowledge that the schools constructed within them, recognising that different viewers would want to be able to access different information in different ways, for example through

exploring the quiet, empty classrooms, or hearing the narration and seeing the captions, or viewing the inset videos of activities or staff introductions. These features of 'We are' virtual tours provide important points of difference between the use of 360° and inset videos and content and VR technologies providing computer-generated simulations of spaces. Specifically, they enable users to directly view and explore in their own time the real people and spaces that they will encounter at the school and to spend as much, or as little, time with this content as they wish. In recognising this variability, we suggest that the virtual tour also gives the child transitioning to the setting a voice in being able to choose what they want to see, and to explore what they want to understand and know. This further reinforces how the creation of the tours revealed the value that schools placed on the importance of children's voices, both in making the transition to the school and becoming a member of it. Thus, knowledge about the schools was made amenable for sharing both in the co-creation of the content of the tour (the *what*) as well as *how* that content could be accessed by its intended users.

It was also evident that the knowledge staff and young people wanted to convey went far beyond a simple representation of the layout of spaces and classrooms (though this was important and certainly included too), and beyond teaching and learning. Indeed, the *content* of teaching and learning was not the focus of the tours at all but rather the *feel* of the place and how teaching and learning was approached, that is, the 'who we are' of the virtual tours and how, in turn, the staff and the students felt *about* the place. This knowledge was strongly embedded in the tours through showing the schools as welcoming, their spaces as non-threatening, and activities as fun, calm and happy. Additionally, the spaces shown conveyed 'insider knowledge' of what new viewers of the settings may want or need to know to feel comfortable, supported and included. This knowledge was also shared in the interviews where staff talked about the pride that they and the students had taken in having the opportunity to represent the values and ethos of the school through the creation of the tour. In these ways, we suggest the 'We are' virtual tours revealed the importance of enabling the *foundations for learning*, that is, the calm, enabling, happy, choice-filled environments that supported children's participation and engagement.

This focus could well reflect the schools' specialist orientations, which included education targeted at supporting young people with complex needs and disrupted trajectories of schooling, as well as residential provision for those needing to live away from a family home. Other schools may well have produced very different kinds of tours to address different needs and/or priorities. Notably, staff and students did not choose to convey any challenging or negative aspects of the schools from their perspectives; indeed, the students at NFS may not have felt able to express these aspects given that their contributions came at the invitation of the headteacher and so there was an inevitable power imbalance between them. However, given that the purpose of the tours was to provide an introduction and welcome to the school, it would be unusual to expect difficulties or negative aspects to be shared via this medium. This leads to an obvious, though critical, point: the important practices, spaces and features of schools that are selected for sharing with new audiences are not the same and should not be assumed to be so. This variability is what makes transitions challenging in the first place, of course, but also illustrates an important methodological affordance of co-creating a 'We are' virtual tour; namely, that it can enable the surfacing of tacit knowledge within schools and practice such that this then becomes amenable for sharing with others (Edwards, 2020).

Limitations

The eventual aim was for the virtual tours to be useful tools for supporting transitions such that the knowledge they made explicit would make transitions for young people a little easier or smoother. Both schools had swiftly started to use their virtual tours in meetings with families and other stakeholders and had embedded the tours in their websites, demonstrating the value of the tours. However, it was not possible for us to formalise a feedback process within the timeframe of this methods-focused research project that would enable us to directly assess whether the tours had made a difference to transitions, and this is clearly a limitation that needs to be addressed in future research. Additionally, it is important to emphasise that the purpose of the tours is not to replace in-person orientation visits but to augment them, and so future implementation and evaluation could aim to understand more about the added value of the tours to usual transition practices.

Parental knowledge was also absent from the project, and this is an important limitation since parents of children with special educational needs and/or intellectual disabilities have 'extensive knowledge about *their* children and how to support them' (Bøttcher, 2014, p. 195). We focused on school and practitioner knowledge as well as that of the students attending the schools, and this worked well, but we also acknowledge the tours could have been even stronger had we engaged with parents/carers in the planning stages to understand more about what they might have found helpful to see or include. Additionally, seeking feedback from the young people involved in the creation of the NFS virtual tour would also have strengthened the knowledge gained from the project, but it was not possible to do this as the completion of the project coincided with the end of the school summer term. We acknowledge that the young people attending HHS were not directly involved in planning or narrating the videos, and while the school staff knowledge

of their students was used as a proxy, we recognise the limitations of this approach (Lewis-Dagnell et al., 2023). Future developments of the virtual tours within practice could explore how young people with diverse and complex needs can be enabled to participate more fully in the design process from the start (Parsons, 2016).

CONCLUSIONS

The co-creation of virtual tours with two different special schools helped to build a visual and interactive representation of knowledge of school practices which then became amenable for sharing with new people transitioning to the schools. Children's and staff members' knowledge contributed distinctive as well as aligned knowledge about what mattered to them and, by extension, what they felt would matter to other people. This knowledge focused mostly on the values and ethos of the school (their approaches to learning) rather than the content of learning. Accordingly, the 'We are' virtual tours became mediational objects both in relation to their instantiation of tacit knowledge about school practices and as a practical tool that could then be used to support the sharing of that knowledge to support transitions (Edwards, 2020).

The main themes presented in the findings offer a potential framework that schools, and other settings, could use to help them think about what practices matter to them and how to make this knowledge visible for sharing to support transitions. This framework is freely available (ACoRNS, 2022) with the aim of promoting opportunities for research to explore what and how different settings might build a virtual tour, what they choose to prioritise and share, and whether such sharing of knowledge makes a difference to experiences of transitions.

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CONFLICT OF INTEREST STATEMENT

The authors report there are no competing interests to declare.

DATA AVAILABILITY STATEMENT

The authors confirm that the virtual tours that were co-created and analysed are referenced in the article and publicly available at the links supplied within the article. Interview data and researcher field notes are not publicly available due to their containing information that could compromise the privacy of research participants.

ETHICS STATEMENT

The process of creating the 'We are' virtual tours, including children's involvement, the evaluation interviews, and the decision to share the tours publicly, are covered under the ethics review and approval process in the Faculty of Social Sciences at the University of Southampton (reference # 62326.A5).

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